

**THE
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation
INCORPORATING

Railway Engineer • TRANSPORT • The Railway News

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DIESEL RAILWAY TRACTION

A Supplement illustrating and describing developments in Diesel Railway Traction is presented with every copy of this week's issue

DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders 1939, No. 1440

With the object of conserving paper by avoiding the return of unsold copies, readers are advised in the interests of all concerned to place a regular order for THE RAILWAY GAZETTE either with their newsagent or direct with the Publisher

Compensation for Minor Railways

THE Government has now reached a settlement with the minor railways as to the terms upon which control is to be operated. It was known that the application to the main-line companies and the London Passenger Transport Board would not prove acceptable in all details to the minor railways, which in some cases at least had had a different revenue experience to their amalgamated brethren. An outstanding example is the Mersey Railway which, largely because of the changed conditions which have operated since the Wirral section of the L.M.S.R. was electrified two years ago, has been steadily expanding its traffics and usefulness. This position has been recognised by the Ministry of Transport and it has been agreed that for the duration of control the Mersey shall receive a guaranteed minimum revenue of £100,015 a year—equal to the net revenue of the 12 months to June 30 last. In addition it will share in the pool with the major railways and the transport board to the extent of $\frac{1}{4}$ per cent.

* * * *

State Trading in Wartime

The State through the Ministry of Supply has become a trader in a very large way, for the Ministry directly handles materials to a value of £150,000,000 a year. It owns practically all the supplies in this country of aluminium, copper and other non-ferrous metals, wool, flax, most of the raw materials for fertilisers, and molasses. Bulk purchase contracts have been made largely with Empire producers and with the Dominion Governments concerned. Tentative arrangements for many of these large contracts had already been made before war began and that enabled contracts to be implemented immediately upon the outbreak of hostilities. The aims of the Ministry of Supply are officially summarised as follow: to see that essential raw material stocks are maintained; to buy them at the best possible prices; to avoid violent fluctuations in price by the exercise of Controls; to sell the materials at a price which, on the one hand, avoids loss to the taxpayer and, on the other, is fair to the consumer; to ensure that stocks are distributed in such a way as to meet, in the first place, essential war needs. Before the beginning of the present war a body known as the Board of Trade Supply Organisation was working out plans under the Committee of Imperial Defence. It prepared plans for conserving and maintaining supplies of raw materials in time of war and for diverting them to essential uses, and the whole of this organisation was transferred to the Ministry of Supply on August 1 last year.

* * * *

Controls

A striking example of the comprehensiveness of our advance preparations that preceded the present war is to be found in the expedition with which various Controls of essential commodities were established. The first Control during the war of 1914-19 was not instituted until the last day of December, 1915—seventeen months after the war had begun. It was not until July 7, 1916, that the first Control over iron and steel was set up. Steel scrap was not added until the end of October, 1916, and even then only numbers of special types were included. No control over home-grown wool was exercised until July, 1916, or over Colonial wool until December, 1916. Not until more than three years after the outbreak of that war was paper waste controlled, and not until 1917, when the position was giving anxiety, was any supervision exercised to ensure supplies of cotton. In our "preparedness" preparations for the present war, first of all a

complete catalogue was compiled of the number of controllers it had been decided to set up. The controllers designated were all earmarked, and in consultation with them the main officials of each Control had also been selected. The places and the actual hotels or rooms in which the Control was to work had all been specified and the lines of the policy on which the Controls were to work had been laid down. Two days before war began—in contrast with one, two, or three years after war broke out in 1914—Orders were made with regard to iron and steel, wool, flax, jute, timber, and many other materials.

* * * *

The Mozambique Government Railways

The Government of the Portuguese colony of Mozambique operates, through a Direcção dos Serviços dos Portos, Caminhos de Ferro e Transportes, 1,082 km. of railway, of which 992 km. are of the normal South African gauge of 3 ft. 6 in., and 90 km. of 0.75 m. (2 ft. 5½ in.). This mileage is made up of five separate and unconnected lines, of which the principal are the Lourenço Marques and the Mozambique, 372 km. and 382 km. in length, respectively. The annual report of the Direcção, just received, gives the following operating statistics:—

	1937	1938
Passengers, number	399,207	463,876
Goods, tons	1,764,145	1,838,687
Train kilometres	1,293,434	1,356,613
	contos	contos
Passenger receipts	6,950	8,144
Goods receipts	83,576	80,703
Gross traffic earnings	90,526	88,847
Working expenses	37,338	40,061
Ratio of working, per cent.	41.26	45.09

From net earnings, 22,000 contos were allocated to the renewal fund. Railcars ran 262,211 km. in 1938, as compared with 243,722 in the previous year, the greater part of this mileage being run by the Michelin cars. Construction work continued throughout the year on the extensions of the Mozambique and Limpopo lines, and further extensions are under consideration.

* * * *

Pennsylvania Railroad Company

Gross operating revenues in the year 1939 were \$430,930,778, an increase of \$70,546,537, or 19.6 per cent. compared with the previous year. Operating expenses were \$306,900,835, an advance of \$49,853,592 or 19.4 per cent. Net railway operating income was \$77,304,330, a gain of \$19,971,432 or 34.8 per cent. Revenue from freight rose \$61,702,742 or 23.8 per cent. to \$320,960,493 and receipts from passengers rose \$5,310,627 or 8.1 per cent. to \$71,106,822. Substantially larger expenditures for maintenance were incurred to keep pace with expanding business; maintenance of equipment cost \$23,713,643 more at \$89,023,540 and maintenance of way and structures was greater by \$9,435,821 at \$42,435,401. Transportation expenses, representing the cost of handling the greater volume of business, rose \$16,209,293 to \$152,304,770. In taxes last year the company paid \$40,095,847 or \$2,870,519 more than in the previous 12 months.

* * * *

100 m.p.h. on the G.W.R.

A feature of locomotive performance during recent years has been the considerable increase in maximum speeds brought about by present-day front end design, with the assistance of streamlining. From various tests that have been made, it is clear that such modern engines as the L.N.E.R. "A4" and the L.M.S.R. streamlined "Coronation" Pacifics can travel at 100 m.p.h. and more

with trains up to 300 tons or so in weight, whenever such a speed is desired; and that if the three-figure speed has been reached, it can be kept up even over level track. In the February issue of our monthly contemporary *The Railway Magazine*, however, details appear in "British Locomotive Practice and Performance" of the attainment of 100 m.p.h. by an engine of which the design dates back 16 years, and has not the benefit, at extremely high speeds, of the reduction in resistance brought about by streamlining. The engine was *Builth Castle* and the weight of the train was 255 tons; the speed was attained between Oxford and Worcester on the 4½ miles of 1 in 100 descent leading from Campden tunnel to Honeybourne. It may be remembered that an exhaustive analysis, in "British Locomotive Practice and Performance," of the data available concerning the 102½ m.p.h. claimed for the G.W.R. 4-4-0 engine *City of Truro* in 1904, showed that the claim could not be sustained, and that the speed, down a gradient which at its steepest is 1 in 80.86, probably did not exceed 96 or 97 m.p.h. If this is so, the feat of *Builth Castle* in attaining 100 m.p.h. on July 31, 1939, is the first recorded example of this speed on Great Western metals with a regular passenger express, and is all the more creditable in view of the moderate dimensions of the 80-ton locomotive concerned.

* * * *

Modern Belgian Locomotive Performance

Some striking evidence as to the competence of present-day Belgian achievements with steam appears in an article on p. 390. It will be recalled that last summer the Belgian National Railways introduced 60-min. trains twice daily in each direction over the 71.0 miles between Brussels and Ostend, and as a stop at Bruges was included, this schedule made necessary what was for a short time the fastest railway run in the world with steam power—Brussels Midi to Bruges, 57.4 miles in 46 min., at 74.9 m.p.h. From the details given in the article, it will be seen that with the 160-ton loads of this service, the streamlined Atlantics specially built to operate the trains can maintain these bookings with ease. Speeds of 85 to 90 m.p.h. are kept up on the level with 15 to 20 per cent. cut-off, and without the regulator being fully open. One exceptional feat recorded was an acceleration from the Bruges start to 87½ m.p.h. in 3½ miles, the first two of which descend at 1 in 500. Particulars are also given of the working of the semi-streamlined 4-cyl. simple Pacifics, the object of which was a capacity to haul 700 tons on the level at 75 m.p.h. On one of the runs described, a train with a gross weight of 700 tons was accelerated by one of these engines to 85 m.p.h. on little easier than level track between Bruges and Ghent, and made the non-stop run of 71.0 miles from Ostend to Brussels with this load in a net time of 60 min. This was done on a cut-off of 25 per cent., with the regulator about two-thirds open.

* * * *

Railways Around Frankfurt

From its commanding position on the old trade routes, Frankfurt-on-Main early attracted the attention of railway promoters in Germany. It was then a free city and surrounded by a collection of states, principalities, and duchies, each jealous of the privileges of the others and levying customs and other dues of its own. A consignment from Hamburg to Austria, for example, crossed no fewer than 10 customs boundaries. All this hindered railway construction very much at first. Fortunately Frankfurt possessed a very far-sighted and energetic citizen in the person of Eduard Franz Souhay (1800-72) who succeeded in winning financial and official support for the early projects in the district, beginning with the Taunus

railway, opened throughout from Frankfort to Wiesbaden in 1840. Its locomotive superintendent at one time was that eminent engineer Heusinger von Waldegg, who invented independently the same valve gear as Walschaerts, always called to this day in Germany the Heusinger gear, although it is generally accepted that it had been anticipated by Walschaerts. Souhay was also the leading personality in the promotion of other lines in the Main, Neckar, and Weser valleys, later absorbed in the various German State systems and making Frankfort a railway centre of first rate importance.

* * * *

Concrete Sleepers

Our recent note about the possible use of reinforced concrete sleepers as a main line substitute for wooden sleepers when there is a scarcity of the latter, as there is at present, has aroused considerable discussion, and a well-known railway engineer has suggested to us the possibility of longitudinal sleepers of this construction. As he says, the old Great Western 7-ft. gauge lines were laid on longitudinal timbers, which are reputed to have given smooth and steady running, and he can see no reason why longitudinal concrete sleepers should not produce the same result. It would, of course, probably be advisable to insert between the rail and the concrete, were the former to be of the flat-bottom type, some elastic material, such as a strip of hardwood, or between the chair and the concrete, were bull-head rails to be used. There still remains, however, the problem of a really sound foundation for such longitudinal sleepers, for without this they would be at least as liable to shatter as concrete blocks with steel ties, or concrete cross sleepers. The concrete slab track construction laid experimentally on the Pere Marquette Railway in 1926, and described in our issue of May 13, 1938, is perhaps the ideal, though financially costly in the first place. On the other hand, all the raw materials (including labour) are abundantly available at home, and their use would be a valuable contribution to our war effort.

* * * *

Feed-Water Treatment in Argentina

Mr. P. L. Falconer, Locomotive Works Manager at Perez, Central Argentine Railway, in his contribution to the discussion on a paper entitled "Some After Problems of Water Softening," presented by Mr. W. O. Topham at a meeting of the South American centre of the Institution of Locomotive Engineers, stated that the policy of that company since 1914 had been the use of large-diameter boilers and high-capacity tenders; the former gave a much greater surface for the generation of steam and possessed a reserve heat capacity to meet peak demands, whilst the large tenders permitted the elimination of unsuitable waters. The first base-exchange water-softening plant on the Central Argentine Railway was installed in 1934, but the technique of this treatment had not then developed sufficiently to prevent severe corrosion of both copper and steel. Two similar plants have since been installed at stations where the water cannot be treated successfully by other means, but, with the exception of these isolated cases, most of the boiler waters used are dealt with by conditioning the water and controlling the density. The results of these measures have been such that it has been found possible to revert to steel for fire-boxes and tubes and bring down the locomotive boiler costs to one-third of those ruling ten years ago. During the same period train loads and speeds have been improved, permitting a 40 per cent. increase in the gross train-miles per locomotive hour with reduced fuel consumption. The average mileage between general repairs has increased by 32 per cent.

London & North Eastern Railway Company

AS shown by the preliminary statement published last week the net earnings from the railway and ancillary businesses and miscellaneous receipts for the first eight months of 1939 were £1,572,000 higher than those for the corresponding period of 1938, and the net revenue for the full year 1939 is £2,617,863 greater than for 1938, although £836,412 less than for 1937. In the full report there are no exact figures to explain the comparatively large gap between the net revenues of 1937 and 1939. The review of the company's business during 1939, which is published with the report, shows that as from the date of control the number of passenger journeys originating on the company's system decreased by 26.3 per cent., compared with the same period in 1938, but at the same time the tonnage of originating goods traffic increased by 29 per cent. and coal traffic by 1.7 per cent. In the ancillary businesses, improvements were recorded, up to the end of August, in the net receipts from road transport and from docks, harbours, and wharves, due in each case to increased business. On the other hand there were decreases in the net receipts from steamboats, canals, hotels, and collection and delivery services. The net revenue for the year 1939 includes the estimated amount accruing to the company under the financial arrangements made with the Government. Dividend payments for the past 10 years are shown in the following table:—

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Prof. ord 5%
2nd pref. 4%
1st pref. 4%
Red. pref. 5%

The miscellaneous receipts of £464,835 shown for 1939 include £402,739 dividends from associated bus companies, compared with £337,533 in 1938. They also include the following profits from goods road undertakings, namely £14,963 (against £13,065) from Carter, Paterson & Co. Ltd., £4,781 (against £4,462) from Currie & Co. (Newcastle), and £24,733 (against £22,087) from Hay's Wharf Cartage Co. Ltd. Results of the whole undertaking for the past three years are summarised in the accompanying table:—

	1937	1938	1939
£	£	£	£
Total expenditure on capital account	352,589,512	355,750,167	357,556,143
Joint lines—Company's proportion of net revenue	441,841	610,126	484,729
Miscellaneous receipts (net)	1,020,152	993,049	*464,835
Net revenue	10,107,442	6,653,167	9,271,030
Appropriation to contingency fund	150,000	—	—
Interest on loans and debenture stocks, etc.	4,222,274	4,220,487	4,217,560
Dividends on guaranteed and preference stocks	5,717,667	2,430,552	5,056,245
Balance after payment of preference dividends	17,501	2,128	Dr. 2,775
Balance brought forward from previous year	66,425	83,926	86,054
Balance carried forward to subsequent year	83,926	86,054	83,279

* Other than those included in financial arrangements with Government

The report shows that during the year the Royal Assent was given to the L.N.E.R. (Superannuation Fund) Act, 1939, and the L.N.E.R. Superannuation Fund was established on July 1, 1939. The provision for the half-year ended December 31, 1939, for the contingent liability arising from the actuarial valuation of the fund has been made on the basis of the annual amount recommended by the actuary. Should this provision reach the figure of £500,000 it would account to a great extent for the difference of £836,412 between the net revenues of 1937 and

1939. In consequence of the outbreak of war it has been decided to defer for the present the electrification of the lines between Liverpool Street and Fenchurch Street and Southend, after existing contract work has been completed. Certain modifications have also been agreed with the London Passenger Transport Board to the North and North-East London electrification schemes.

Southern Railway Company

THE report for the year 1939, amplifying the preliminary statement published in our issue of March 1, shows that the satisfactory dividend of $1\frac{1}{2}$ per cent. on the deferred ordinary stock was fully earned with a margin of £8,610. As already noticed, in 1937 when the deferred ordinary received $1\frac{1}{2}$ per cent., the net revenue was £190,452 less than that for 1939. The reasons for the smaller 1939 dividend were that the amount brought forward in 1937 was £125,876 greater, and that the new issue of 4 per cent. redeemable debenture stock (1970-1980) ranked for interest for the first time in 1939, requiring £266,563. An issue of £7,500,000 of this stock was authorised in 1937, but by the end of 1938 only £4,750,000 had been placed. Now the whole amount of £7,500,000 has been taken up and will require £300,000 for a full year's interest. Returns on the preferred ordinary and deferred ordinary stocks for the past 10 years have been as follow:—

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Pref. ord.	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$
Def. ord.	$1\frac{1}{2}$	nil	nil	nil	nil	nil	$\frac{1}{2}$	$\frac{1}{2}$	nil	$1\frac{1}{2}$

Among the miscellaneous receipts of £161,809 are included profits of £14,963 from Carter Paterson & Co. Ltd., against £13,065 in 1938, and of £24,733 from Hay's Wharf Cartage Co. Ltd., against £22,087 in 1938. The amounts received in dividends from associated bus undertakings are not given in the report. Some financial results for the past three years are compared in the accompanying table:—

	1937	1938	1939
Total expenditure on capital account	£ 171,495,577	£ 173,589,283	£ 174,430,455
Joint lines—Company's proportion of net revenue ...	Dr. 42,388	Dr. 47,422	Dr. 36,696
Miscellaneous receipts (net) ...	1,237,503	1,219,724	*161,809
Net revenue	6,552,124	5,941,904	6,742,576
Interest on loans and debenture stocks, etc.	1,943,167	1,943,167	2,209,730
Dividends on guaranteed and preference stocks	2,751,278	2,751,278	2,751,278
Balance after payment of preference dividends	1,857,679	1,247,459	1,781,568
Dividend on ordinary stocks ...	1,851,684	1,379,330	1,772,958
Rate per cent. :—			
Preferred ordinary	5	5	5
Deferred ordinary	$1\frac{1}{2}$	Nil	$1\frac{1}{2}$
Surplus or deficit (+ or -) ...	+ 5,995	- 131,871	+ 8,610
Balance brought forward from previous year	220,809	226,804	94,933
Balance carried forward to subsequent year	226,804	94,933	103,543

* Other than those included in financial arrangements with Government

The extension of the new Motspur Park—Leatherhead Railway from Tolworth to Chessington South, with an intermediate station at Chessington North, was opened for traffic on May 28, 1939. An illustrated description of the complete line from Motspur Park to Chessington South was given in THE RAILWAY GAZETTE of June 2, 1939, on page 911. It is also recorded in the report that electric services were introduced on July 2 last on the extensions from Gravesend Central to Strood and Maidstone West, Swanley to Gillingham, Strood Junction to Rochester Junction, and

Otford Junction to Maidstone East. These extensions were described and illustrated in the special Electric Railway Traction Supplement of THE RAILWAY GAZETTE for June 30, 1939. On the Waterloo & City line improvements are well in hand and the new rolling stock will be introduced at an early date. Owing to the war it has been found necessary to defer for the present the scheme for the provision of an escalator at the City (Bank) station. Of the sum of £5,929,811 to be borrowed by the Company from the Railway Finance Corporation Limited under the Railways (Agreement) Act, 1935, a further sum of £1,250,000 was taken up in 1939, making a total of £5,000,000 received. The company's investments in Government securities increased during the year from £6,001,884 to £7,964,901 and in road transport undertakings from £2,038,040 to £2,105,675.

Procedure at Railway Meetings

AT this season of railway annual general meetings the voice of the stockholder is often raised, sometimes in gratefulness and approbation, but oftener in criticism which is seldom constructive. A conviction that he could perform far better the duties of his duly elected representatives on the board is a general trait of certain stockholders who seem to be unaware that their proper function is to consider and to express as a body either approval or disapproval of the policy which the directors put before them. A recent determined effort on the part of a stockholder to enforce the execution of his convictions on the directors of a railway company by other means has lately been the subject of an action in the courts. As briefly reported in THE RAILWAY GAZETTE of March 1, the Court of Appeal upheld the decision of the lower court and dismissed the appeal of the plaintiff. In that case Mr. John Wilson, a stockholder in the London Midland & Scottish Railway Company had claimed that the company, in sending proxies in favour of certain directors to a number of large stockholders and not to proprietors with smaller interests, had contravened the provisions of the Companies Clauses Consolidation Act, 1845. He also sought a declaration by the Court that under that Act there was power to remove directors at the annual general meeting, and that at the L.M.S.R. annual meeting in March last year the chairman had wrongfully ruled out of order a resolution that directors should retire from the board on reaching the age of 70. Further, he claimed a declaration that railway directors who were also directors of other companies trading with the railway were acting in contravention of the railway company's special Act.

In the lower court Mr. Justice Simonds held that (1) the company was entitled to send out stamped proxies in the names of the directors to stockholders holding at least £2,500 worth of stock in order to secure a quorum of votes at the annual general meeting, and that it was under no statutory duty to send out proxies to smaller stockholders; (2) the chairman of the company had properly ruled out of order a resolution proposed by a stockholder at the annual general meeting, of which no notice had been given in the advertisement of the meeting, and that the company was not bound to give such notice; (3) a director of the railway company was not disqualified from office by the fact that he was also a shareholder in or a director of a company contracting with the railway company provided that, being a director, he did not vote on such contracts. In the Court of Appeal the second point was not raised; the Master of the Rolls in giving judgment upon the other two said that the appellant on that branch of his appeal was complaining of a practice adopted by the railway of sending out stamped proxies only to stock-

holders holding £2,500 of stock and upwards. Mr. Wilson's contention was that all stockholders should be treated alike and that, if stamped proxies were issued to some of the stockholders, they should be issued to all. The principle for which Mr. Wilson contended had no legal foundation. This was not a case where for the purpose of a controversy to be fought out at a meeting the directors selected a particular class of stockholders so as to influence the voting. What the directors did was done as a matter of practice and there was nothing sinister about it. As to whether directors of the company could also be directors of other companies trading with the railway the Master of the Rolls said that it was not the business of the Court to consider questions of policy. Provided that a public company was doing what the law provided and not doing what the law forbade, all matters of policy must be dealt with by the ordinary internal machinery of the company without interference from the Court. If Mr. Wilson considered that the policy being followed was not a good one he should try, if he could, to get it changed, but it was not a matter within the competence of the Court.

It is perhaps not generally realised that the primary object of the companies in sending out proxies stamped for return is to ensure that the annual meeting shall be held validly, and to ascertain whether the directors' policy is approved by the principal stockholders. The directorates have the duty of securing a quorum, which amounts to a very substantial amount of stock. In the case of the L.M.S.R., for example, there must be present at least 20 stockholders holding in the aggregate not less than £1,000,000 nominal value of stock. When it is considered that many stockholders' interest is small—in the case of the G.W.R. probably 70 per cent. of them do not hold more than £1,000 of stock apiece, and some years ago it was stated that of 114,000 L.M.S.R. ordinary stockholders only 18,000 held £1,000 or more of stock—the directors' reasons for sending proxies to known holders of substantial amounts will be apparent. There is another reason which makes it desirable, in the interests of efficiency and economy, to secure the proxies of substantial stockholdings. The voting rights of railway stockholders vary with the amount held; it is not a simple case, as in many industrial undertakings, of one vote for each unit of stock. For Great Western stockholders one vote is valid for each £50 of stock (except debenture and rent charge) up to £500 and then one vote for every £250 up to £5,000 followed by one for every additional £500 in excess of £5,000. On the L.M.S.R. the rights are: one vote for each £50 up to £100; one for each £100 from £100 to £1,000; one for £500 from £1,000 to £10,000; one for each £1,000 beyond £10,000. On the L.N.E.R. the position is: one vote for each £100 up to £1,000; one for each £500 from £1,000 to £10,000, and one for each £1,000 thereafter. On the Southern preferred and deferred stockholders receive one vote for each £50 of stock up to £500 and then one vote for each £250 in excess of that figure. Holders of other stocks, except debentures, get one vote for each £100 up to £1,000 and one vote for each £500 beyond. It will be seen therefore that the classification of voting rights is a task which would become unduly onerous, protracted, and costly if proxies were received from a large number of small proprietors instead of from a smaller number of large stockholders.

The question of directors of railway companies retiring on reaching some age limit—Mr. Wilson suggested 70—and also that of the multiplicity of their interests are hardly annuals. If there is to be an arbitrary age limit for railway directors it must presumably be based upon the hypothesis that after the attainment of that limit their powers fail to an extent which makes them incapable of the efficient conduct of business. If that were well-

founded, it would surely apply to other responsible offices. There can be little doubt that the conduct of the nation's affairs and the responsibility attaching to it is greater in its burden than that of railway administration; nevertheless, British history is rich in the achievements of political leaders who have passed 70. For work that requires experience, judgment, and ability to apply carefully accumulated knowledge to current affairs age is not necessarily a drawback. Railway directors are not called on to take an active part in the running of the line or the multiplicity of businesses which go to make up the modern railway company. They have to decide the policy which is to be implemented by a staff of experts. Of the variety of interest of some railway directors it may be said that this is their qualification for their presence on the board. Their diverse knowledge of the trades and businesses which come under constant review by railway boards is of the greatest value in the definition of policy. The very eminence they have attained in industry is their greatest justification for their presence upon railway boards. To put the matter in its lowest form, to obtain men of the knowledge and capacity of many railway directors and to restrict their activities to the service of the railway alone would prove so expensive as to be impracticable. In general, it has to be remembered that railway companies, both as to the powers of directors and those of stockholders, are more circumscribed than the ordinary run of industrial companies. The latter may change their articles of association with little ado, but the railway company must obtain an Act of Parliament to vary its powers. The restrictions placed upon railway companies are not of their seeking; they were imposed by a Parliament jealous for the public wellbeing and fearful lest undue freedom might be abused. The stockholder who is dissatisfied is provided with his redress. If he can, he may obtain the support of a sufficient number of his fellows and convene an extraordinary meeting. That may prove an expensive and difficult matter, but then so are many of the steps which the companies have to take as the result of their statutory restrictions.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents.)

Jubilee of the Forth Bridge

15, Derwent Crescent, N.20

March 8

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The publicity given to the jubilee of the Forth Bridge is remarkable for its widespread revelation that Sir John Fowler had a hitherto unknown collaborator in evolving the cantilever type of bridge, one Sir Benjamin Butler. This is particularly of interest because the name is so nearly the same as that of his better-known partner, Sir Benjamin Baker. Could you reveal a little more about Sir Butler and any other of his achievements?

Perhaps it might be appropriate to refer here to the attack of October 16 last by German aircraft on warships lying near the bridge in the Firth of Forth, when, although the bombing planes flew close to the bridge and, it is said, even beneath one of the spans, no attempt appears to have been made to bomb the structure. Presumably this avoidance was the result of the specific instructions which may be deduced from the policy of leaving unharmed anything that might have provoked retaliatory measures by British aircraft on important German bridges.

Yours faithfully,
STUDENT OF ENGINEERING

[We have to confess to an error. Sir Benjamin Butler existed only momentarily in our mind. We hesitate to offer an explanation of the similar lapse by several of our contemporaries.—ED., R.G.]

PUBLICATIONS RECEIVED

Engineering Training.—The extraordinary financial policy of cutting down every phase of industrial and domestic activity to fit an arbitrarily-created amount of money, which has been followed by this country since 1919, has put technical ability at a discount, and has brought the nation into a serious position where skilled workmen are at a premium, yet few skilled men under the age of 40 are available. One of the most urgent problems to be solved now is to ensure a continuity of capable men in all branches of engineering, and as a base on which to erect a proper system the beautifully-produced book entitled "Engineering Training," just issued from the Rugby headquarters of the British Thomson-Houston Co. Ltd., seems particularly apposite. It describes

in detail the comprehensive training drawn up for all classes of electrical engineering apprentices, but it is impossible here to give an adequate idea of the field covered; the book needs careful study, not only by parents, but by the executives of all firms of any size, and if the material in it could be used as the groundwork of a paper before a senior technical institution in the near future it should assist in clearing the air, and encouraging similar training schemes to be inaugurated by other companies working on their own initiative. A dozen years ago we were in close touch with the B.T.-H. apprentice training scheme; its working made us wish that we were still apprentices, but at that time there appeared to be a hiatus covering the first few years after the indentures were

completed. From the book in front of us we judge that this gap has now been closed, and that in essentials a very complete training scheme for apprentices and young men is in successful operation.

Travel in Australia.—The Victorian Government Tourist Bureau has issued a new series of leaflets describing the comprehensive service it offers all tourists in Australia, whether travelling by rail, road, sea, or air. The attractions of Victoria, both scenic and recreational are depicted and described.

Dust Removal.—Booklet No. K. 189 bearing this title has been issued by Keith Blackman Limited, of Tottenham, London, N.17, and describes the range of products covering fans, settlers, filters, separators, and conveyors and containing the key to separate catalogue numbers for specific types of equipment.

THE SCRAP HEAP

Extract from programme of "The Hoo Review"

THE POWERS THAT BE By S. J. Middleton and W. J. Price

Sir Ralph Pottery, G.O.M., P.T.O.	..	..	..	O. H. Corble
Mr. C. H. Oldton, L.S.D., C.O.D.	..	..	..	E. A. W. Dickson
Mr. E. J. Hittandmiss, U.T.M., R.S.V.P.	..	..	..	W. Macfarlane
Sir James Filme, E.O.H.P., P.T.F.	..	..	..	R. Bryon-Scott
Sir Bill Timber, F.O.B., C.I.F.	..	..	..	D. Fenton
Mr. G. Cold-Bacon, E.O.E.	..	..	..	W. J. Allen
Gubbins	..	..	..	W. J. Brannam

By the end of this month about 75,000,000 oranges and lemons will have passed through the Southern Railway depots at Nine Elms and Bricklayers Arms since January 1. These represent over half a million cases. Nine Elms, which handles the bulk of the traffic, is disposing of 500 tons daily (8,000 to 10,000 cases). Most of the fruit comes from Spain through France, but some is from the Jaffa orange crop from Palestine.

Some men grow under responsibility. Others merely swell.

The owners of the Southwold to Halesworth (Suffolk) Railway did the local Boy Scouts a good turn when they closed the line. The Scouts, the 1st Southwold Troop, have now taken over the disused station, and the waiting rooms, booking office, goods sheds, and stationmaster's room make ideal headquarters. Under cover on the platform the boys practise signalling, and they may use the railway telegraphic instruments for Morse transmission. But there are two things which, to their regret, they must not touch—the two small engines which used to draw trains between Southwold and Halesworth and which, after the last journey, were packed away in the hope that one day steam would be raised again.—*A letter to the Editor published in the "Daily Mirror."*

Burglars recently entered the permanent way offices of the French National Railways at Marseilles and, breaking open a safe, got away with fr. 700,000 in notes intended for the payment of workmen's wages.

The shocks of New-World nomenclature are rarely analysed. Perhaps too rarely, since more than half the charm of American travel resides in the place names. What delight in Rolling Prairie; what grace in Miami; what unquenchable merriment in Ypsilanti. And what nobler introduction to the theme than the railway line that runs, in geographical delirium, from Poughkeepsie to Rome, by way of Utica and Amsterdam, and then on to Syracuse?—*From "Rag-time and Tango," by Philip Guedalla.*

The General, at luncheon, remarked that his grandfather fell at Waterloo.

"How annoying," said the blonde. "Which platform?"

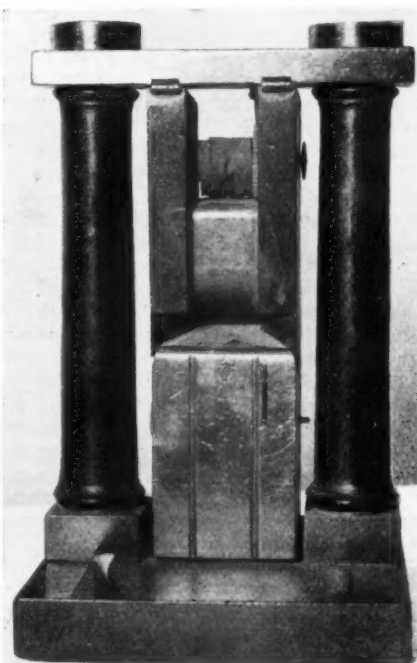
This amused the General so much that he told the story to his niece.

"How ridiculous," she exclaimed, "just as if it mattered which platform."

At this, the old boy rushed off to his Club and recounted everything to the waiter. The latter

sympathised over the stupidity encountered nowadays, saying, "Why, they didn't have railways in those days, did they, sir?"—*From "Vickers News."*

Curtains were drawn over the windows of the German railway travel bureau in Geneva recently. The bureau was transferred from Paris at the outbreak of war, and a few days ago local workers were engaged to paint signs on the windows. Instead they painted just what they thought of Hitler. Hence the drawn curtains.—*From the "Daily Herald."*



Early ticket-dating machine preserved in the York Railway Museum

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

INDIA

Railway Conference Association

It is understood that the next annual meeting of the Indian Railway Conference Association will be held in New Delhi on March 15 and 16. In previous years the annual session has been held in Simla during October, but owing to the outbreak of war it was postponed. There are at present no indications whether a spring meeting is to be permanent or not.

The Railway Budget

The Railway Budget, which is to be presented to the Central Assembly on February 16, is expected to contain important announcements regarding increases in railway tariffs, probably to the extent of about 15 per cent. for both passengers and goods. The object of the proposed enhancement of rates appears to be to increase as far as possible the railways' contribution towards the general revenues.

The expected surplus for 1939-40 is, on the basis of increasing current receipts, forecast at Rs. 2 crores (£1,500,000) by the time the Budget is introduced in the Assembly, and before the financial year closes it may swell to 2½ crores. A good deal of the rise in railway revenues is undoubtedly due to increased war traffic during the last six months, and if the war continues, railways in the following year may reap a larger harvest and produce a surplus of about Rs. 5 crores with the assistance of the increased rates.

Indian Railways Report for 1938-39

The Railway Board's administration report for the year ended March 31, 1939, has just been issued. It shows that in that year the gross receipts of the Indian Railways amounted to Rs. 94.48 crores, or 53 lakhs less than in the previous year. Net revenue was Rs. 30.67 crores against Rs. 32.02, and the excess over interest charges was only Rs. 137 lakhs. This surplus was paid to the general revenues and the repayment of the heavy loans taken from the Depreciation Fund in the years of slump has been postponed until the present year. Before the depression set in large profits had accrued to the State from the railways. Special interest attaches to the narration in the report of the steps taken to increase earnings and of the considerable savings effected by the detailed scrutiny of expenditure initiated by the scheme of "job analysis."

Lower Fares Produced More Passengers but Reduced Receipts

During the year 530,623,000 passengers were carried, despite severe road competition. Though it is often claimed that a reduction of the already

very low third class fares obtaining in India will inevitably stimulate passenger receipts, the fallacy of this remedy for road competition is apparent from the experience of two railways on which an increase in the number of passengers was attended with a decrease in earnings. It is noteworthy that the competition from lorry traffic has continued to increase, particularly in the United Provinces, in Bengal, and in the areas served by the North Western Railway.

No fewer than 2,461,612 passengers were detected travelling either without tickets or with no proper tickets. These figures exclude the very large number of mendicants turned out of trains and station premises. On occasions, large and aggressive bands forcibly enjoyed free travel in defiance of the railway staff and the railway police.

Greater Amenities for Lower-Class Passengers

The report deals at length with measures taken to provide greater amenities of travel for lower-class passengers, such as new types of third class carriages, comfort of women passengers, improved booking arrangements, waiting rooms, and food and water supplies. In addition, special attention has been devoted and considerable sums have been spent to ensure the comfort and well-being of the large numbers of pilgrims travelling to *melas* and places of worship. When criticism is directed to railway "inaction" in the matter of amenities for third class passengers, it is not generally realised that the railways might be in a position to do more for this class of travellers but for the large revenue lost through fraudulent travel.

Railway Questions in Assembly

During the year under review, the number of railway questions answered in the Central Legislature was no less than 26 per cent. of the total dealt with by all Government departments. Though this figure speaks of the growing public interest in matters relating to the railways, it is desirable that members of the legislature should pause to reflect upon the wisdom and practical utility of the substantial expenditure incurred in obtaining answers to their questions.

Indo-Ceylon Travel

For the facility of residents in Ceylon who are desirous of visiting the Kodai-kanal hills, the well-known sanatorium in South India, the management of the South Indian Railway has concluded arrangements with the Ceylon Government Railway for the issue at all railway stations in Ceylon of first and second class 45-day through return rail-cum-road tickets to the Kodaikanal out agency. With holiday travel to Europe restricted by the war, an extension of travel facilities may possibly

result in an expansion of tourist traffic between India and Ceylon.

CEYLON

Narrow-Gauge Hill Railway Closed to Passengers

The last passenger services on the Uda-Pussellawa narrow-gauge section were run on January 5, at the close of the holiday season. A clerk-in-charge and one assistant now staff Nuwera Eliya station to attend to goods and parcels traffic. The Governor of Ceylon took the last opportunity offered to travel by this railway on its final day of carrying passengers, a fitting recognition of so noteworthy a line, opened by one of his predecessors some 50 years ago.

Latest Goods Traffic Features

A rise of 10 per cent. has had to be enforced in all contract rate concessions allowed to regular railway customers as from January 1. So far no rise in goods rates generally has been announced.

A considerable increase in goods traffic between India and Ceylon is reported, and an additional steamer has been put on to the Dhanushkodi-Talaimannar ferry service to relieve the pressure. This enhanced traffic is due to a large volume of freight being diverted from the all-sea routes between Indian ports and Colombo to the rail route.

SOUTH AFRICA

Report of Controller and Auditor General

The audited figures for the year ended March 31, 1939, show an excess of expenditure over revenue of £438,666, which has been partly met from the surplus of £320,769 brought forward from the previous year, leaving a net deficit £117,897. Operating expenses increased by £1,117,766 or 4.81 per cent., but revenue decreased by £788,632 or 2.36 per cent. The operating ratio was 74.65 per cent., compared with 69.54 per cent. the previous year.

A loss of £28,470 on road motor services compared with a profit of £26,122 in 1937-38 is attributed to (a) the liberal tariff reductions which came into operation in July, 1937; (b) increase in price of petrol; (c) improved staff conditions; (d) improved plant and workshops with additional technical supervision, and (e) preponderance of one-way low-rated traffic. The tariff reductions caused a surrender of revenue amounting to £57,000. Of a total of 111 area services, 49 showed a profit aggregating £31,589, the remaining 62 showed a loss of £60,059.

Drop in Air and Grain Elevator Net Earnings Over £300,000

On grain elevator working there was a loss of £35,757 compared with a profit of £126,552 in 1937-38. The aggregate loss on working since the opening of the

elevators is £462,615. The net profit on publicity, bookstalls, advertising, and automatic machines was £23,615, an increase of £3,028. The loss on catering services was £16,492 compared with £13,924 the previous year. The profit on bedding services decreased from £8,550 to £8,115. Airways show a net loss of £325,544 compared with £150,643 in 1937-38.

Railway Welfare Work

A committee consisting of the Chief Railway Commissioner as Chairman and Messrs. C. M. Hoffe, Assistant General Manager (Commercial), and M. M. Loubser, Chief Mechanical Engineer, as members, has been appointed to examine and report upon the social welfare work conducted for the benefit of the administration's staff. The following are the terms of reference:—

(a) To examine and report upon the progress of social welfare work conducted for the benefit of the administration staff and their families, with particular reference to schemes such as the butter scheme, fruit, vegetable, and other food clubs, and such other similar and allied activities, and to define the limits which should be applied to these.

(b) To ascertain the financial commitments involved departmentally in respect of this work, and to submit recommendations in the direction of making it self-sustaining.

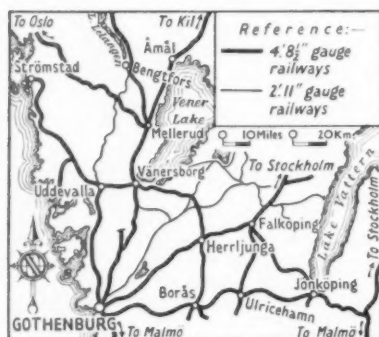
(c) To report upon the extent to which outside aid should be sought or encouraged in the carrying out of social work among the administration's servants, distinguishing between help from railway families and others.

Mr. P. G. Joubert, Principal Clerk of the office of the Minister of Railways & Harbours, will act as Secretary to the committee.

SWEDEN

Ulricehamn—Jönköping Railway

The last of the railways that have been under construction has just been completed, namely, the line between the well-known watering place and summer resort, Ulricehamn, in the province of Västergötland in western Sweden, and the "match town," Jönköping, at the southern end of Lake Vättern. The length of the new railway—the construction of which has been going on for 11 years—is about 60 km. (38 miles) and its cost is estimated at Kr. 11,000,000;



Sketch map showing the Ulricehamn—Jönköping, Uddevalla—Herrljunga and Uddevalla—Lelängen lines, to become part of State system

it forms a continuation of the railway from Gothenburg eastwards to Ulricehamn via the textile town of Borås.

The idea of a railway from Gothenburg via Borås and Ulricehamn to Jönköping arose as long ago as 1845, but for different reasons it has not until now been fully carried out. The section from Gothenburg to Borås, however, was constructed in 1894, and the section from Borås to Ulricehamn in 1917. Work on the last portion of the originally planned railway, between Ulricehamn and Jönköping, began in 1928, but was largely used as a means of alleviating unemployment, so it went on very slowly and chiefly in seasons of greatest unemployment.

State Railways to Absorb This and Other Neighbouring Lines

It is expected that the whole section between Gothenburg and Jönköping will soon be taken over by the State Railways, in conformity with the scheme for amalgamation by voluntary agreement between the private railways and the State Railways.

A preliminary agreement has just been concluded with another railway company in west Sweden for the taking over from July 1 this year of the Uddevalla—Vänersborg—Herrljunga Railway, and negotiation continues for the transference of the Uddevalla—Lelängen and several other railways.

GERMANY

Two Accidents on Same Day (1) Genthin Collision

The two serious accidents of December 22 last at Genthin and between Markdorf and Kluftern, respectively, are the subjects of official statements. At Genthin (on the Berlin—Potsdam—Magdeburg line), express D 180, Berlin (23.45 from Potsdamer Hof) to Saarbrücken, overtook at a speed of 100 km.p.h. (62 m.p.h.) express D 10, Berlin (23.15 from Potsdamer Hof) to Cologne, which had stopped out of course for reasons explained below. D 180 was booked to arrive at Magdeburg at 1.16, or 12 min. later than D 10 which was more easily timed and had more stops. The brake van and two rear passenger coaches of the standing train were totally destroyed and the next coach badly damaged; the leading three vehicles of the colliding train, a mail van and two sleeping cars, were badly damaged, and the next three vehicles derailed; 186 persons were killed and 108 injured. The collision occurred about midnight, and the line was blocked till 9.20 a.m., December 23.

As train D 180 approached the intermediate block post in rear of Genthin, Belicke, 6 km. (3½ miles) east of the station, the distant and home signals were "on," the section ahead being occupied by D 10; nevertheless D 180 ignored them, although the signalman, seeing how fast it was coming, showed an emergency hand signal. He at once telephoned to an intermediate gatehouse and to Genthin East signal box, where the signalman threw on his home

and distant signals just as the locomotive of D 10 was passing the former—both signals being worked on one lever, as is usual in Northern Germany—and ran out with a red hand signal. Unfortunately the fireman of D 10 saw him with this and, supposing it was meant for his train, informed his driver, who pulled up with the rear vehicle 70 m. (77 yd.) beyond the box. Train D 180, which had also failed to observe emergency hand signals at the gatehouse, dashed into D 10 a few moments later. Whether the enginesmen of D 180 had lost their whereabouts in the blackout is not explained; A.T.C. equipment exists on this route, as shown in THE RAILWAY GAZETTE for April 7, 1939, page 581, but presumably the Saarbrücken train was hauled by a non-fitted engine. The official statements make no reference to this.

(2) Head-on Collision on Friedrichshafen Line

The accident between Markdorf and Kluftern, on the Radolfzell-Friedrichshafen single line, was a head-on collision in a fog between a special passenger train and a goods train, the former having been wrongly allowed to leave a crossing station because of gross negligence by the two stationmasters concerned, who failed to comply with the single line block telegraph rules and have since been placed under arrest; 101 persons were killed and 28 injured. The Minister of Transport, Dr. Dröpmüller, appointed a special commissioner to investigate the working on this section of line, with technical advisers.

SPAIN

"Ferrocarriles y Tranvías"

The reappearance of the Madrid technical monthly *Ferrocarriles y Tranvías* is welcomed in railway circles. The January issue is the first to be published since the outbreak of the civil war in July, 1936, when the journal was obliged to suspend publication. The January number contains photographs of General Franco, the Minister of Public Works, the Director General of Railways, and the General Managers of the three principal railways. Technical articles relating to railway bridges, rolling stock, and so forth, are fully illustrated, and there is a summary of the railway legislation promulgated since the year 1936.

New Locomotives for the M.Z.A.

Among the new locomotives now being constructed for the principal companies by the Maquinista Terrestre y Marítima of Barcelona, under the decree of May 8, 1939 (see THE RAILWAY GAZETTE of June 9, 1939), is the new streamlined 4-8-2 engine of the "1800" Class for the Madrid, Zaragoza & Alicante Railway Company. This locomotive is reported to be of 3,000 h.p., and is designed to haul trains of 550 tons at 110 km.p.h. (68 m.p.h.) on the level.

THE OUTDOOR MACHINERY DEPARTMENT—II*

Notes on the constitution, duties, and relationships with other departments of the Outdoor Machinery Department of a British main-line railway

By J. DALZIEL, formerly Assistant Electrical Engineer, L.M.S.R.

THE evolution of a design is mainly a matter of the intuitive visualisation of the contemplated machine and of its integral parts as they relate to each other and to operation as a whole. It is clear that such visualisation must be based on understanding of the complete machine in both its mechanical and electrical sections and of their reactions on each other. This cannot be so if a purely mechanical man is to set out his portion and then come to a border line beyond which he is in unknown territory where he has to hand over to an electrical man. Nor can the latter do any better than supply what he is asked for if he is to begin in the middle without first-hand knowledge of the requirements and proposed operating conditions. There is no such clear-cut boundary line possible, as inter-reactions of the two sections arise throughout the machine.

Familiarity alike with electrical and mechanical technique is essential to the evolution of new types of plant better suited to electric operation than that formerly in use, and more fully utilising its convenience of application and control to attain superior operating features. There are many such types of modern machinery, the evolution of which has been made possible only by electric operation. With some of these, operating success has been derived entirely from electrical factors and from a correct appreciation and utilisation of the interplay of electric reactions, *e.g.*, most marine winches, marine capstans of the surging and stalling type, the Midland capstan described in a previous article,[†] the machinery of most electric lifts, most modern crane-brakes, and the like.

Unification of Staff

The only fully efficient organisation, therefore, relative to the O.D.M. and the Electrical Departments is that in which they are fused with unified staffs conversant technically, as regards the higher officers at least, with all aspects of the work of the combined department.

Whether the mechanical or the electrical side should preponderate is not of much consequence and is largely a matter which will settle itself. As it is clear the more technical staff should be all-round men, it is largely academic to discuss whether a mechanical man can better deal with the electrical side of a machine than the electrical man with the mechanical, but at least no electrical man can be without some mechanical experience, whereas there are many mechanical men with no electrical knowledge.

Nevertheless, in the writer's opinion it is easier for a mechanical man with sound technical and mathematical abilities to acquire a working knowledge of electrical work than *vice versa*.

Independence of or Attachment to C.M.E.

Whether the combined Electric and Outdoor Machinery Department should form an independent department or be a section of the Chief Mechanical Engineer's Department, depends mainly on the policy at the moment of the rail-

way concerned; there is in any case no apparent advantage in combination with the Signal & Telegraph Department, the technique of which is on a different scale and of a different nature. There is little affinity between the specialised problems of locomotive work and the very wide variety of machinery dealt with by the Outdoor Machinery Department, which dictates the vast majority of the new constructive works of the latter being done by contract as against the considerable amount of constructive locomotive, carriage and wagon work done by the railway staff.

Essential Differences from Locomotive Work

There is the further distinction that rolling stock construction is practically always done in multiple and exclusively in the shops, whereas the Outdoor Machinery Department deals mostly with single units which have to be erected on site and each of which, even where units of the same type of machine are in question, varies according to conditions presented by site or operating requirements. There are cases where a number of identical machines, such as cranes, may be installed in batches, but it is rare to find even approximate repetition of such batches. Capstans of the 1-ton loose-rope type present the only instance of appliances which can be practically identical for all applications and could be manufactured in quantities.

Repair work on O.D.M. likewise differs radically from that on locomotives. In the case of the latter the engine is replaced by another according to roster and brought into the shops. In that of the former, bodily substitution of the machine affected is seldom possible, though detail parts can, and should be arranged to be replaceable quickly; much work is therefore involved on the site and, if the convenience of the using department is to have proper consideration, parts not bodily replaceable but requiring repair must be attended to as quickly as possible, apart from any roster.

Retention of Control

If the O.D.M. and Electrical Departments can only be fused under the C.M.E., by all means let that condition be accepted, but if this is to mean that at some stage full control of their work is to pass from the Outdoor Machinery officers—say in respect of maintenance and repair work—then, by division of their responsibilities, they are not given a chance to work efficiently. There is this to be said for the C.M.E. Department connection, as it happens on the electric rather than the O.D.M. side, that the advent of main-line locomotive operated electric traction will throw the two more closely into association, as, to some extent, oil-electric developments have already done.

Functions—New Work

Most schemes for which the O.D.M. Department will be called upon to provide the machinery must necessarily originate with one or other of the operating departments. Ideally it will rest with the O.D.M. officers to ensure the progressiveness of their railway and to see that the plant they recommend in its general character is in line with, or ahead of, plant so far installed for like purposes, and that it is of a type to utilise fully all the advantages conferred by the flexibility and ease of application and control

* The first instalment of this series appeared in our issue of March 1.

† Published in three parts in THE RAILWAY GAZETTE of July 23 (p. 149), August 6 (p. 233), and August 20 (p. 316), 1937, respectively.

of electric operation. It may differ radically from the form of machinery contemplated by the department initially bringing the scheme forward, but it should meet the requirements equally or more effectively and should embody the best working features attainable, even possibly at some sacrifice of engineering considerations, such as in the use of special motors or the supply of special current. Operating considerations should come first.

In general these are speed of working, particularly on light loads, minimisation of labour, and reduction of liability to damage, facilitated by machinery flexible in movement and easy to control; these confer rapidity in handling, stowage and loading, so enhancing the user of traffic equipment and appliances, sidings, sheds, and quayfaces, and giving a quick turn-round to ships. These are not always complementary and it may be that fast loading is, or may be considered to be, inconsistent with freedom from damage. The railway's interest is manifestly to make maximum use of its appliances, yards and quaysides but it is desirable to have regard to any considerations put forward by traders, even though such may be ill-founded. This is a point which the O.D.M. staff must have in mind, though decision upon it is properly for the Operating or Commercial Department to make.

The O.D.M. officers should accordingly keep themselves abreast of modern development at home and abroad in respect of the machinery for which they are responsible, and should be in close and continuous touch with the current practice and methods of other railways and analogous bodies, such as dock and harbour boards, industrial plants and collieries, and of private contractors; they will naturally be in touch with and have a good general work-

ing knowledge of the operating methods of the departments they serve. They will thus be in a position to select and recommend the best machinery for the purposes required.

Oppositions to New Schemes

O.D.M. officers may in actual practice, however, hesitate to do so. The law of resistance to change does not apply only in engineering technique, and inevitably where a new type of plant is introduced there may have to be faced not only useful and friendly criticism but opposition arising largely from localised views or conservatism.

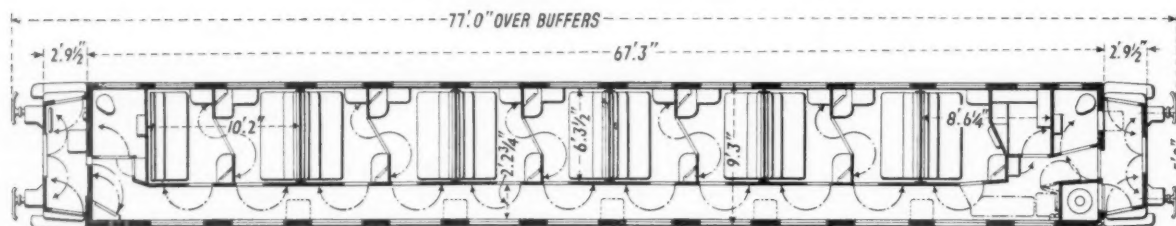
It is natural that the disadvantages of an old plant to which one has long become accustomed should be overlooked while the advantages of the new are taking time to establish; it is less easy to understand why, as sometimes happens, there should be objection in one locality to an eminently suitable type of plant installed extensively as first choice for its purpose up and down the country both by railways and other users. Such factors may well incline O.D.M. officers to prefer peace of mind to progressiveness, and to give the operating departments plant on the lines they indicate without attempting improvements.

As regards the actual policy pursued, much will depend on the lead given from higher quarters. The leadership in this respect of the late Mr. Robert Reid, of the L.M.S.R., was ideal. He was prolific in new ideas and bold in their conception, and his direction was always towards modernisation, while his wide engineering and railway knowledge fitted him to put an accurate value alike on schemes as proposed and on criticism of or opposition to them; having come to a decision he did not lack courage or tact to put it in force.

(To be continued)

NEW INTERNATIONAL SLEEPING CARS

Improved design, using welding, results in saving in weight combined with increased strength



A FEW years ago the larger European railway systems asked the International Sleeping Car Company to investigate the question of reducing the weight of its vehicles, and in 1937 that company ordered a number of lighter, all-steel sleeping and restaurant cars, of which 33 are now giving very satisfactory service. A description of those made by the Ateliers Metallurgiques of Nivelles, Belgium, appears in *L'Ossature Metallique* for January last: from this the following brief particulars are taken. The principal dimensions are:—

Length over buffers	...	...	...	76 ft. 11 1/2 in.
Width outside body	...	...	...	9 ft. 4 1/2 in.
Distance between bogie centres	...	...	...	52 ft. 6 in.
Overall height, above rail	...	...	...	13 ft. 1 1/2 in.
Weight in running order	...	...	...	51 tons

The bogies are of cast steel monobloc construction with S.K.F. roller bearings and pendulum suspension with the equalising beam below the axleboxes, giving very smooth running, especially on entering curves. The remaining suspension is of the Pennsylvania type, with leaf and elliptical springs and rubber shock absorbers. The wheels, of French make, are in one piece. Braking up to

160 per cent. of the deadweight is provided by 16 brake blocks. The Westinghouse brake gear has the Rihosek-Leutcher valve, allowing the cars to run in vacuum-braked trains when required. Spencer-Moulton rubber-spring drawgear is fitted. The body design has been modified. Hitherto the company has used heavy longitudinals of equal resistance, the body proper contributing little to the strength of the vehicle, but the new tubular girder principle has been adopted in which the sides and roof take a large part of the stresses. Instead of cast steel, the extremities of the underframe have been built up of welded plate, thus saving 1,375 kg. (1 ton 7 cwt.) in the weight. Special anti-telescoping strengthening has been incorporated in the ends of the cars.

The whole of the upper part of the body, the roof framing and panelling, upper part of the compartment divisions and the internal fittings are of aluminium alloy. Stainless steel water tanks are used and are much lighter than the former copper ones. The floor is of sheet steel with bitumen and cork mixture and cork slabs, and Limpet sprayed asbestos sound proofing. Isoflex heat-insulating material is applied to the partitions and roof.

A TRAIN CRUISE TO SCOTLAND IN 1876

Successful and much-applauded private venture soon after the introduction of the Pullman Car to Great Britain

AN interesting account of a train cruise undertaken in August, 1876, anticipating the modern cruises by trains such as the L.N.E.R. Northern Belle, appears in the "Life of Sir Charles Tilston Bright," one of the foremost electrical pioneers in Great Britain,* by his brother and son, which was published in 1903. Always fond of travel, Sir Charles Bright joined in the proposal made in 1876 by a Mr. James Caird of Dundee to run a cruise from London to the North of Scotland and back in a special Pullman car train, an idea then declared to be a happier thought "than ever shone in the luminous pages of Mr. Punch." A number of well-known men and their ladies were invited, forming a party with ingredients "like plum pudding—varied but pleasant." The train "contained a saloon, or drawing room, about forty feet long, furnished with easy chairs turning on pivots and with shifting backs, so as to enable the sitters to change position—either for the panorama they were traversing or for conversation. At the end was placed a piano, by which many stray moments were beguiled. Beyond the drawing room was a separate reading and writing compartment for the more studious or novel reading community, and a smoking snugger for cloud compelling creatures. Another car was devoted to a dining room, in which 28 could sit comfortably if necessary—with a butler's pantry attached, containing an ice chest and other comforts. Beyond this were sleeping cabins for ladies, and when dinner was over the party passed to the saloon for conversation or music, upon which the tables were let down and by an ingenious series of contrivances the car was changed into two tiers of sleeping berths. There were four dressing compartments in connection with the cars and a luggage van in which a bath was fitted up as well as a cooking stove."

An American "conductor" was in charge, it is stated, and the special train left St. Pancras terminus on July 30, 1876. The route taken was: Bristol, Bath, Cheltenham, Worcester, Derby, Matlock, Buxton, Carlisle, Edinburgh, Perth, and over the Highland line to the extreme north, back *via* Dunrobin—where the Duke of Sutherland became filled with a desire to organise a similar train himself—to the Clyde district near Helensburgh and through Glasgow and the West Coast back to London, the journey occupying a month. At some places in Scotland, it is said, the permanent way had to be lowered to allow the Pullman cars to clear certain old bridges. The trip was favoured by good weather, and we read that "a delicious sensation of comfort and freedom was experienced on reaching each fresh halting place from the fact that no baggage had to be removed from the cars. Moreover, all were utterly independent of the thousand and one troubles connected with hotel accommodation—carrying their

rooms, servants and provisions with them; besides which there was the feeling of thorough privacy which could never have been obtained for so many at inns on the way."

This train cruise of over 60 years ago attracted a good deal of attention in the press, the *Daily News* of September 6, 1876, devoting a long leader to it. "The fortunate travellers," it said, "were carried where they chose, stopped where they chose and had no trouble with luggage and no difficulty about refreshments or hotels. For them Mugby Junction displayed its Bath buns, its hot and sticky soup and its dusty sandwiches in vain. They did not pass feverish moments waiting for their baggage. . . . They were not subject to the jests of that dry wag, the guard, who has carefully put their carpet bags in the wrong van. For them indeed the rough places were made smooth and the high places level. They were independent of inns and could stop and dine in the midst of wilderness. . . . Every night they were shunted into a siding, where they happily enjoyed entire freedom from accidents. They had all the advantages of yachting which come most prominently before the fancy of a landsman. . . . It may be said that the full advantages of the railway have never been hit upon till now."

The writer went on to recommend the plan as "particularly useful to learned societies, who wish to study their facts upon the spot and who will now be able, if they have the ear of directors to get at their battlefields and monuments in great and soothing comfort. This plan of travelling for pleasure—so as really to be pleased and not perplexed and fatigued—seems after all but a small conquest of the new world of undiscovered enjoyments."

This northern train cruise of 1876 must have been a considerable advertisement for the Pullman car, which was introduced in this country on the Midland Railway in 1875. At that time the Pullman interests were represented in Great Britain by a Mr. Shenstone Roberts, who made one of the party.

Railways in Indo-China

The Compagnie Française des Chemins de fer de l'Indochine du Yunnan operates 395 km. in Tonkin from the port of Haiphong to Hanoi and Lao Kay, and 464 km. in Yunnan from Lao Kay to Yunnan Fou. In the year 1938, as shown by the report which we have recently received, there was a substantial development of traffic both in passengers and goods as compared with 1937. Railcars were increasingly popular. The dividend received in 1938 on the fr. 38,500,000 of share capital was fr. 55 a share or 22½ per cent.

	1937	1938
Kilometres open	859	859
Passengers	4,161,844	4,462,386
P.V. paying goods (tonnes)	309,203	378,626
Operating ratio, per cent.	48.38	38.17
	Fr.	Fr.
Total traffic receipts	60,028,537	97,078,480
Operating expenses	29,041,342	37,058,652
Operating surplus	30,987,195	60,019,828
Total net profit	11,417,805	12,564,230
Carried forward	343,736	828,653

Out of the 1938 operating surplus a sum of fr. 19,192,935 was payable to the colony. The net operating profit was fr. 8,807,522.

* Sir Charles Bright was connected by marriage with another such pioneer, Sir W. F. Cooke. He entered the service of the Electric Telegraph Company, the first such concern in this country, in 1847 at the age of 15, and progressed so rapidly that he became Engineer to the Magnetic Telegraph Company in 1852 and carried out extensive works on its behalf. Associated with the laying of the first cable to Ireland about that time, he joined the promoters of the original Atlantic cable as Engineer-in-Chief in 1856 and was knighted in 1858—when only 26 years old—after the cable was laid. Not long after, however, it proved an electrical failure. Sir Charles Bright was later concerned with cable undertakings all over the world. He was President of the Institution of Electrical Engineers in 1887, his inaugural address dealing with cable engineering, and died in the next year.

ACCIDENT PREVENTION

Some timely hints on elementary precautionary methods of particular value when national production in all its forms is being speeded up

From a Correspondent

AT the present time when national production in all its various forms is of the utmost importance, and when every man hour lost through whatever reason is a charge on the national purse, and at the same time a loss to the country of valuable productive hours, it is vital that the thoughts of all those connected with industry should turn to the social welfare of those engaged in manual labour. It is of particular importance that this subject should be reviewed during the present abnormal conditions, when such considerations as the effects of the blackout with its reduced lighting, lower vitality of the worker, and the increase in average age owing to the concentration of older men, have a tendency to increase the liability of accidents. Social welfare in its entirety covers a wide field and, as the confines of this article are intended to cover only those aspects of the subject relating to industrial accidents, their causes, prevention, and remedy, it is proposed to limit this article to that section of the subject.

The works manager or supervisor who is responsible for the welfare and safety of any considerable number of manual workers is conscious of the ever-present possibility of accidents occurring through one cause or another and he naturally takes the necessary precautions to see that all machinery and moving parts are guarded and protected in accordance with the requirements of the statutory regulations, but when all this is done it is the human element which enters so largely into the matter. A careful survey of the causes and effects of accidents will repay amply the time spent on this more or less obscure subject and leaving out the many efforts made to procure and maintain a healthy condition of employment a well-planned organisation to deal with the prevention of accidents, or when they do occur to find the remedy, will afford an interesting and fruitful study.

It has often been claimed and not without an element of truth that there is no such thing as an accident—that with few exceptions all accidents can be traced to a lapse of memory or lack of anticipation on the part of the victim or to some other person. Although the total number of accidents may not at any particular works or depot appear large—the result can be demoralising in more ways than one—it not only wastes the time of the person concerned, but it may even dislocate a whole group or section, particularly if the man happens to be a key man or one of a group working in a “chain or belt” it also takes the time of First Aid men which, although not of long duration, mounts up to a considerable sum at the end of the year. This and other factors made the accident a mostly matter.

Prevention

1.—As accidents can happen to the juvenile through ignorance, to the mature through want of caution, and the elderly through physical defects, or shall I say imperfections, it is necessary to find some way of curing these human frailties. Every junior who is a new entrant to the works or factory should be aware of the risks he will be likely to encounter at his particular job and in order that he may become safety minded he should be given a short talk in simple language, and if possible supplied with literature, preferably a small handbook quoting a few of the things he “should or should not do.” Of course, care must be taken to avoid making young persons too

accident conscious, as such a state tends to instil fear and timidity. The ideal condition is “safety minded.”

2.—It is of the utmost importance that the works or factory, including yards, if any, should be cleared of all causes which could give rise to an accident, such as material unsafely stacked, obstacles lying about, uneven floors, lights badly placed, and so casting a shadow, etc. These may seem elementary things, but they are so often overlooked, whereas accidents frequently happen through these simple causes.

3.—Buildings, machines, and machine equipment should be kept at all times in a thorough state of repair. It has been found of great assistance to institute periodical inspection of such items as skylights, roof gutters; ladders, lifting appliances, and loose tools, all of which if not maintained in a proper state of repair can give rise to accidents in some cases serious.

4.—Unsuitable clothing and lack of protective clothing is also a likely cause of mishaps. The use of loose sleeves or open jackets have been known to lead to very serious accidents. The question of protective clothing is one which requires special consideration having regard to the nature of the work being performed and its type and application will be readily determined after a little careful consideration of the risks involved.

5.—Warning notices should be posted up couched in simple language and in a situation where they are likely to be read and indicating the nature of any risks.

6.—It has been found very helpful to have ready a supply of posters showing pictures or slogans clearly defining such items as “right and wrong ways of lifting—the danger of standing under a suspended load—the proper use of chains,” and so on.

Organisation

The manager or supervisor having taken all possible precautions to ensure that the factory is safe and the employees are as far as possible safety minded, a shop committee should be formed, to meet periodically and report any weaknesses due to wear and tear or other causes and make any suggestions in the interests of safety. These reports should be carefully reviewed by the manager and where desirable put into force. Should an accident happen, as it will inevitably at some time, the particulars outlined on the report should be carefully analysed by an investigation committee and that committee to carry out a virtual inquest submitting the “findings” to the manager with recommendations for suitable steps to be taken to avoid a recurrence.

“The Hoo Review”

On three evenings last week performances were given of “The Hoo Review” at H.Q.1, L.N.E.R. All profits are being devoted to the purchase of comforts for men in the services. Mr. W. J. Price, the Producer, is to be congratulated not only upon the “slickness” of the programme, but also on devising and writing the dialogue of no fewer than six of the topical sketches in the programme. The services of all concerned in the production of the show were given gratuitously. Mr. C. H. Newton, Chief General Manager, and Mr. R. Bell, Assistant General Manager, were present at the Friday evening performance.

CARRIAGE & WAGON DEPARTMENT DEVELOPMENTS, G.W.R.

A high-capacity carriage storage shed at Swindon and new carriage lifting and painting shops at Caerphilly

THE large new building erected on the south side of the G.W.R. line, about a mile west of Swindon station, is a carriage storage shed designed to hold new stock built in the shops during the winter months, until it is required for holiday purposes and summer traffic. This building, which has a capacity of 265 coaches, and contains 10 lines of track, is 1,800 ft. long and 122 ft. wide, and is formed in two spans, each 61 ft. wide. The

time of its demolition. Its passing marked the last of the official residences which at one time were a feature of Swindon works.

New Shops at Caerphilly

The new carriage lifting and painting shops at Caerphilly were erected under the supervision of the company's Chief Engineer; they are constructed of steel framework



The new carriage storage shed at Swindon

height to the eaves is 15 ft. and the total area under cover approximates to five acres.

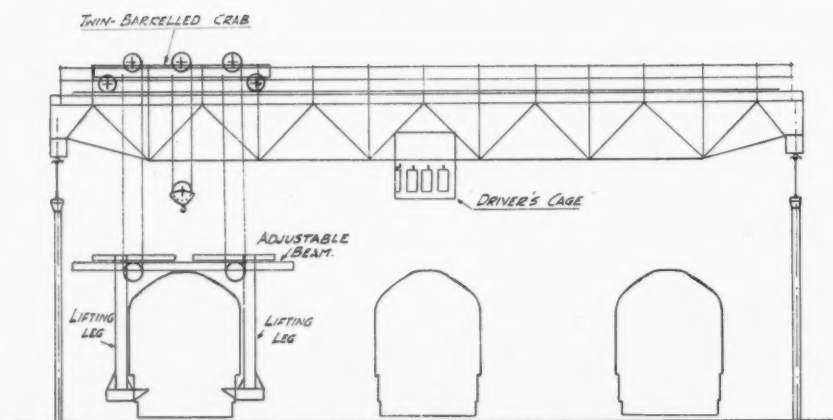
The building, of asbestos-covered light steel construction, has been erected entirely by the Chief Mechanical Engineer's Department; it was authorised by the directors in October, 1936, under the Government Guaranteed Loan arrangement. To protect the coachwork of the vehicles from sunlight during storage, the north-light system has been adopted, only the side of each roof span on the north side being glazed. Some 35,000 trucks of filling had to be deposited to bring the level of the site up to that of the main line. The shed columns are carried on concrete piers varying in length up to 30 ft., built up from the virgin ground. The erection of this building brings the total area occupied by the company's Swindon works up to 326 acres, of which 79 acres are roofed over.

To permit carrying out the scheme it was necessary to demolish Newburn House, which stood in the way of the approach roads to the land on which the new shed has been erected. Newburn House was built in 1873 as a residence for the company's Locomotive Superintendent. Mr. Joseph Armstrong was the first tenant, followed by Mr. William Dean in 1877, and Mr. G. J. Churchward in 1902. The last-named was in residence there until December, 1933, after which date the house was unoccupied up to the

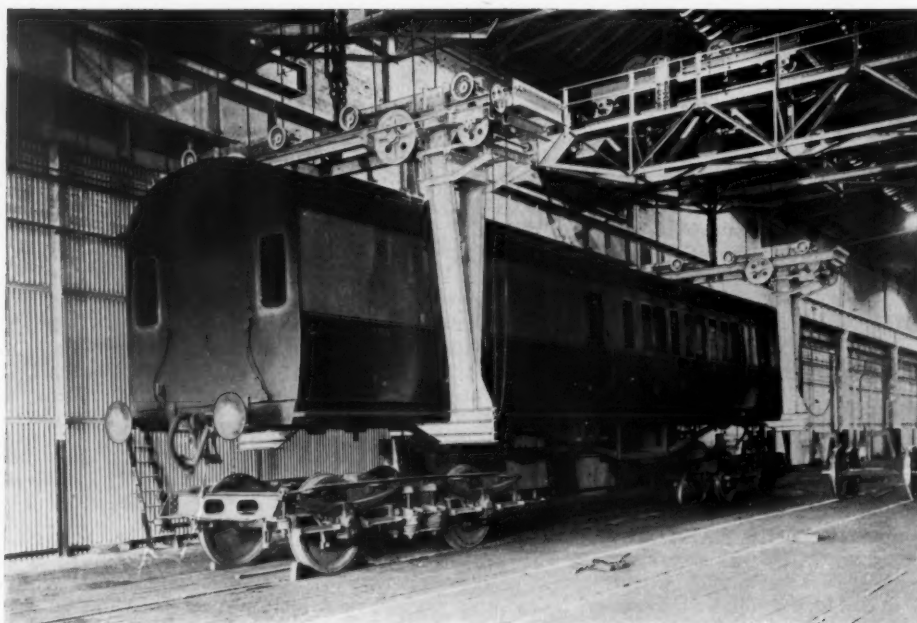
with brick filling. The floor is of timber and the roof covering of corrugated iron. The shops are heated on the unit heater principle. The overhead travelling cranes are an interesting feature of the equipment; their capacity is 20 tons each and span 69 ft., and they travel the whole length of the shop. Each crane is fitted with a twin-barrelled crab, and carries below the crane-bridge an adjustable beam from which are suspended the two body-lifting arms. The usual practice is followed when lifting takes place; that is to say, the two cranes are brought into position above the vehicle, one at each end, and the arms lowered round but clear of the coach body, this operation being controlled by the crane driver. The workshop staff on the ground bring together the projecting fingers by means of hand gear so that they will pass under the solebars, and the coach body is ready for lifting clear for the bogies to be run out, the body being supported on trestles until the replacement bogies are ready. Each crane is also fitted with a 10-ton auxiliary lifting hook for dealing with loads in the ordinary way.

It was towards the close of 1936 that the Great Western Railway announced its intention of establishing at Caerphilly a centre for the repair, lifting, and maintenance of carriage stock as a contribution to South Wales Special Area relief, and it was considered desirable to transfer to

Right: The new carriage lifting and painting shops at Caerphilly; the large building on the right is the lifting shop



Left: Explanatory diagram of the travelling cranes illustrated below



Left: The two overhead travelling cranes lifting a coach body clear of the bogies in the new lifting shop at Caerphilly

NEW G.W.R. CARRIAGE LIFTING AND PAINTING SHOPS AT CAERPHILLY

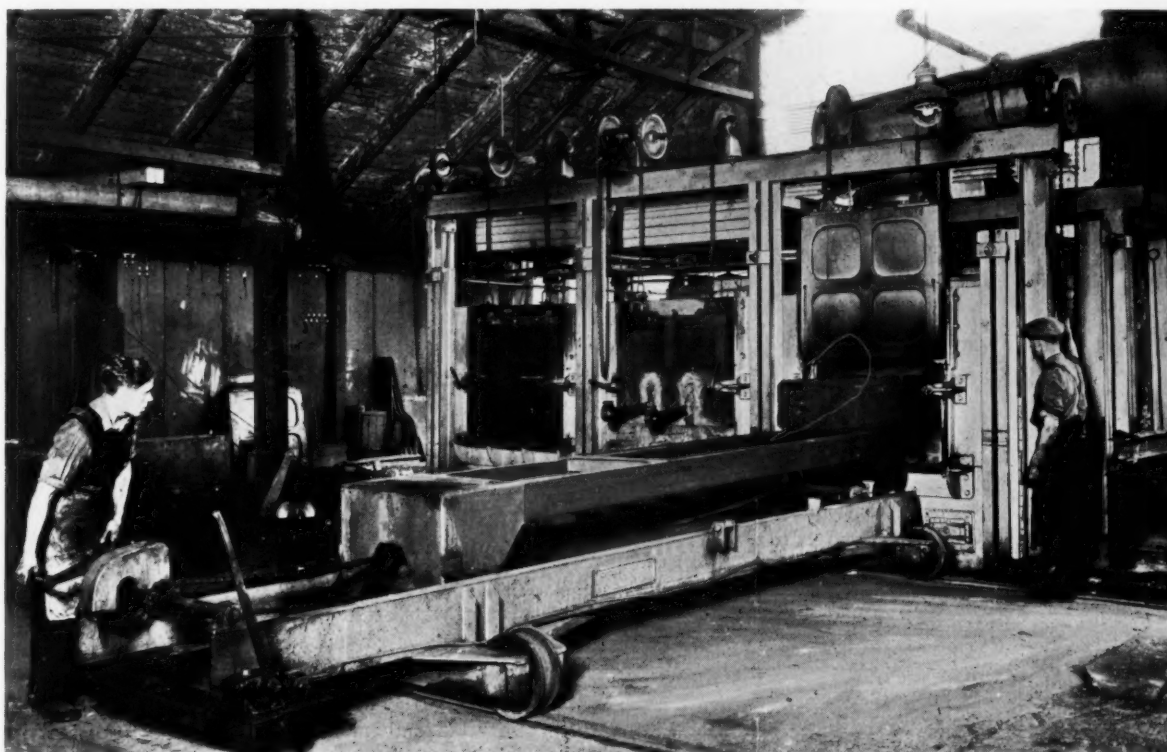
Caerphilly the carriage repairing, which since grouping had been carried out in the former Taff Vale Railway shops at Cathays. The locomotive, carriage, and wagon maintenance shops of the Rhymney Railway, one of the constituent companies amalgamated with the Great Western Railway under the Railways Act, 1921, had been situated at Caerphilly, some seven miles from Cardiff in the Rhymney Valley. The Rhymney Railway stock comprised 123 locomotives, 109 carriages, and 1,147 wagons. After the amalgamation, when carriage and wagon repairs were removed to Cathays, locomotive repairs were concentrated at Caerphilly, for which purpose the existing locomotive shops were very greatly extended. The old Rhymney Railway carriage and wagon shop at Caerphilly measured

220 ft. by 130 ft. wide, and had six roads. The new building, which stands adjacent to the old shop, is nearly twice as long. It comprises two bays, each 424 ft. by 72 ft. The bay next to the old shop which is 19 ft. 6 in. to eaves, has three roads and is used for carriage painting. The other bay, measuring 32 ft. to the eaves, comprises the lifting shop; it also has three roads served by two electrically driven overhead travelling cranes. Wheel turning and grinding lathes for dealing with carriage tyres and journal-polishing machines have also been provided in this shop.

We are indebted for the above information and the originals of the illustrations to the Editor of the *Great Western Railway Magazine*.

HEAT TREATMENT OF STEEL AT DONCASTER WORKS, L.N.E.R.

Triple-chamber coal-fired furnace



Incandescent Heat Company's furnace for general heat treatment of steel installed in L.N.E.R. locomotive works at Doncaster

THE furnace illustrated herewith from a photograph taken by permission of Sir Nigel Gresley, Chief Mechanical Engineer of the London & North Eastern Railway, is installed in the company's locomotive works at Doncaster. It was supplied by the Incandescent Heat Co. Ltd., of Birmingham, and is designed to carry out the general heat treatment of all classes of steel.

It is of the triple-chamber coal-fired type, one chamber having clear inside working dimensions of 12 ft. long \times 3 ft. 6 in. wide; the distance to the crown of the arch being 2 ft. The other two chambers are each 8 ft. long

and 3 ft. 6 in. wide \times 2 ft. to crown of arch. The 12 ft. chamber is fired with a firebox as an independent unit and the two smaller chambers are heated by a single firebox. Each chamber is fitted with a pyrometric recorder and indicator having individual thermo couples, the records of which are examined every twenty-four hours. The furnace is equipped with an incandescent two-fork cantilever type charging machine. The forward and reverse movements of the charging forks and main traverse are arranged for hand operation. The load is raised and lowered by hydraulic jacks and a hand-operated pump.

THE EBBW VALE STEELWORKS RAILWAYS

One of the most modern plants in the country is served by private mineral lines, some of which were built nearly 150 years ago

EBBW VALE, the famous Monmouthshire valley which is part of the vital mineral-producing area of South Wales, has been associated with iron and steel works for over a century and a half, and the link between ancient and modern is nowhere more marked than in connection with the new Ebbw Vale sheet steel works of Richard Thomas & Co. Ltd., which we described briefly in our issue of May 12, 1939. The plant itself, which is the most modern in the country, occupies the site of the old works of the Ebbw Vale Steel, Iron & Coal Co. Ltd., closed in 1929, and the 10-mile private railway giving access to the limestone quarries is constructed in part on the course of an ancient railway built in the last decade of the 18th century.

The Ebbw Vale Steel, Iron & Coal Co. Ltd. was incorporated on April 15, 1868, but the undertaking dates back to about 1790. In December, 1935, the company's iron and steel assets and five collieries were sold (as from November 9, 1935) to Richard Thomas & Co. Ltd., and the present works, of new construction on an old site, cover an area $2\frac{1}{2}$ miles long by $\frac{3}{4}$ mile wide, and are equipped with entirely modern plant. There are altogether $57\frac{1}{2}$ miles of private railway track used in connection with the works, including the railway to the Trevil and Blaen Dyffryn limestone quarries. The motive power consists of 32 steam tank locomotives and one diesel locomotive. On the quarry line the gradients are as severe as 1 in 35, and the loads have to be limited to 14 hoppers and a brake van. As each of the two blast furnaces uses 280 tons of limestone daily, and each limestone kiln 150 tons, a total of nearly



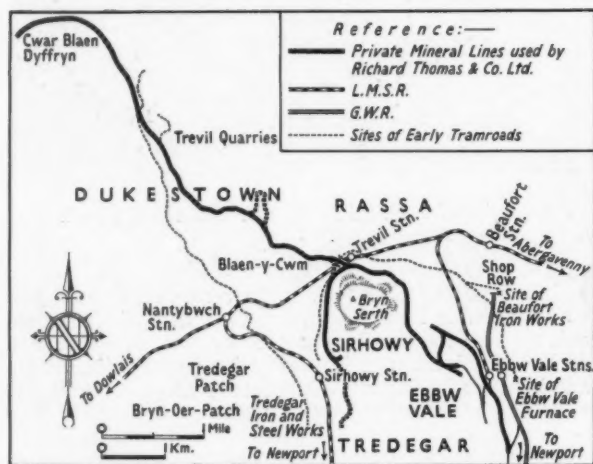
One of the 32 steam tank locomotives shunting in the Ebbw Vale works

900 tons of limestone has to be carried daily, in addition to limestone chippings, which are sold. The round trip from quarry to works and back takes about 3 hours and six trains are worked up and down daily.

The origin of the quarry line is to be found in an ancient undertaking called the Trevil Rail Road Company which was not incorporated by Statute, but was (and is) in effect a private partnership. It held its first meeting on May 30, 1793, when 55 shares of £100 each were subscribed. This company relied for its powers to build its railways on the Act 32 George III cap. 102 (June 3, 1792) which incorporated the Company of Proprietors of the Monmouthshire Canal Navigation, and authorised the company to build branch railways to works, quarries, and so forth, within eight miles of the company's Statutory canals and railways. Failing the construction by the canal company of such branches, similar powers devolved on the local landowners, ironworks proprietors, and the like, and it was to exercise such "reversionary" powers that the Trevil Company was formed.

The Trevil Rail Road Company took possession of the necessary lands about 1795, and on June 10 of that year made a further call on its shareholders (of £40 per cent.) to "complete the road." A further call of £3 per cent. was made on August 16, 1798. The company opened a series of lines, probably in 1797, enabling the products of the Trevil limestone quarry to be delivered easily to ironworks such as Sirhowy, Beaufort, and Ebbw Vale.

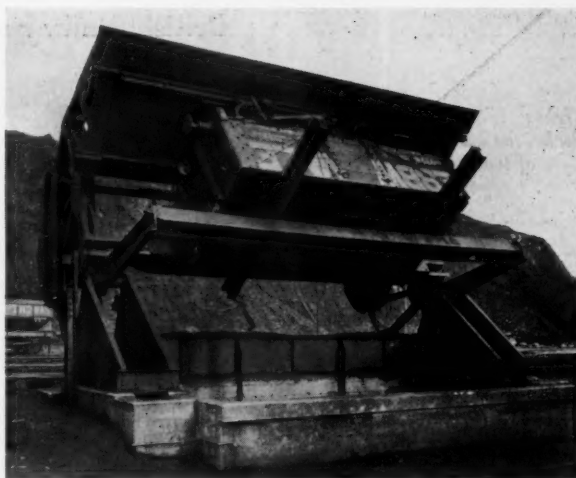
The main railway was one of 2 miles 5 furlongs from Trevil quarry to a point near the present Trevil station, and this is the principal section still in use. At the latter place it joined the now-abandoned Rassa Railroad (belonging to the Monmouthshire Canal), and the remaining Trevil Company's lines were branches from the Rassa to the various ironworks. Most of these branches have long since become derelict, but the site of the one to Sirhowy has been adopted for the modern line used by Richard Thomas & Co. Ltd. for access to the brickworks on the western slopes of Bryn Serth.



Sketch map showing the principal private mineral railways used by Richard Thomas & Co. Ltd. for transport between the limestone quarries and the Ebbw Vale steelworks

In connection with the new works, the line from Ebbw Vale to Trevil was completely relaid with new sleepers and new or second-hand rails and chairs. This reconstruction included building a new bridge over the L.M.S.R. at Trevil station to afford a through run instead of back shunting on the railway to Sirhowy and over the old bridge (shown dotted on the sketch map). The old bridge is still in existence but the rails have been lifted and it is now used only as a footbridge. Half way between Trevil station and Trevil quarries an embankment has been constructed across a valley. The original line followed the contour of the valley and so contained very sharp curves, constituting a serious restriction to traffic owing to the necessity for greatly reduced speed; also, derailments here were not infrequent. On our map the present line is shown solid, and the former course dotted. This diversion and the new bridge at Trevil have enabled a considerable saving in journey time to be effected. Beyond the old terminus at Trevil quarries, an extension has been built to Blaen Dyffryn quarries, making the total length of the main line approximately 10 miles.

On December 31, 1873, the Ebbw Vale Steel, Iron & Coal Co. Ltd. became a shareholder in the Trevil Rail Road Company, but the ancient company continued to exist as the owner of the original properties. At the time Ebbw Vale assets mentioned above were acquired by Richard Thomas & Co. Ltd., that company took the place



Wagon-tipper unloading coal into storage bins at Ebbw Vale

of the Ebbw Vale Company as a Trevil shareholder. In 1938, however, the whole of the Trevil Railway assets were conveyed to Richard Thomas & Co. Ltd., which now owns the complete railway system.

Old British-built Swing Bridge at Aarhus, Denmark



This old single-line swing bridge was built to carry the Aarhus-Randers main line—the first railway opened in Jutland, in 1862—over the river, which, however, has now been almost entirely covered in as it passes through the town. A maker's nameplate on each of the girders shows that the steelwork was fabricated by the Canada Works, Birkenhead, in 1862. This firm also supplied the first locomotives for the Jutland railways. The bridge is still in use, though infringing running dimensions, but will be replaced by a fixed structure as soon as the remainder of the river has been covered

British Railways and the War—II

Right: Wharf House, Padworth, Berks, the wartime emergency office of the G.W.R. Surveyor



Left: Wasing Place, Midgham, Berks, where are located the emergency offices of the Chief Accountant's staff (routine matters), G.W.R. The Chief Accountant himself has his office at Beenham Grange, Aldermaston, which was illustrated at page 298 of our March 1 issue

Right: The Gables, Cholsey, which accommodates the staff of the G.W.R. Registration office

Photo: Norman Mable



RAILWAY NEWS SECTION

PERSONAL

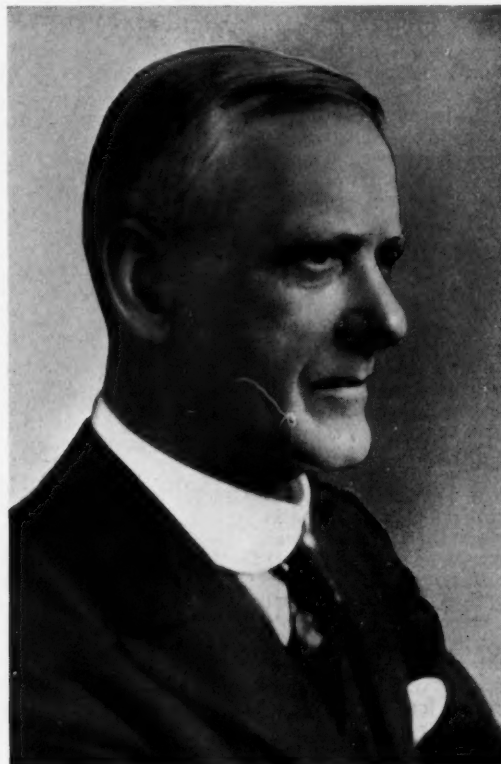
Mr. R. G. Davidson, Joint Accountant, Southern Railway, is to become Chief Accountant from March 31, when the other Joint Accountant, Mr. A. Howie, is to retire, as announced in our issue of March 8. Mr. Davidson began his railway career in the Secretary's office of the London & South

accountants, was, in 1909, appointed General Assistant to Mr. F. Hartnell, then Accountant of the London & South Western Railway. He was placed in charge of the alteration and revision of the accounts of all departments of the company necessitated by the Railway Companies (Accounts & Returns) Act, 1911, and in 1914 became one of the original Investigators

South Eastern Railway in 1890 in the Locomotive Accountant's Office as a junior assistant. He was later transferred to the Chief Accountant's Office, London, became Chief Clerk, and in 1921 was appointed Assistant Accountant, S.E. & C.R. Mr. Howie was an Investigator of Railway Companies' Accounts against the Government throughout the Government Control



Mr. R. G. Davidson
Appointed Chief Accountant,
Southern Railway



Mr. A. Howie
Joint Accountant, Southern Railway,
1925-1940

Western Railway, and eventually became a member of the Chartered Institute of Secretaries. In order to widen his experience, he resigned from railway work for the purpose of being articled to a firm of chartered and incorporated accountants, passed all the examinations, and became in due course a qualified Incorporated Accountant. Subsequently he spent the greater part of a year travelling in the United States and Canada, and some years later he revisited America, and in Japan and the Far East was afforded special facilities for the study of the railway systems of these countries. Recently he has also made an extensive tour in South Africa and Rhodesia. On his first return from the States, Mr. Davidson, after serving for some little time with a firm of chartered

accountants, was, in 1909, appointed General Assistant to Mr. F. Hartnell, then Accountant of the London & South Western Railway. He was placed in charge of the alteration and revision of the accounts of all departments of the company necessitated by the Railway Companies (Accounts & Returns) Act, 1911, and in 1914 became one of the original Investigators

Mr. A. Howie, Joint Accountant, Southern Railway, who, as announced in our issue of March 8, is to retire on March 31, began his career with the

period, and was in charge of financial arrangements at Port of Richborough, including train ferry and barge services, while these were worked by the South Eastern & Chatham Railway for the Government. In 1923 Mr. Howie became Assistant Accountant of the Southern Railway and in February, 1925, was appointed Joint Accountant with Mr. R. G. Davidson. He was prominently concerned in the two great legal cases which followed on the new legislation arising out of the amalgamation of the railways, viz., the fixation of Standard Revenue, etc., in compliance with the Railways Act, 1921, and the new valuation of railways for rating purposes in accordance with the Railways (Valuation for Rating) Act, 1930. In each of these cases he gave evidence for his company. He also played a

leading part in the formation of the London Passenger Pooling Scheme as provided by the London Passenger Transport Act, 1933, and in this case he gave evidence on behalf of all the parties. In 1938 he succeeded Sir Ralph Cope as Chairman of the Railway Accountant's Committee, and was afterwards appointed by the Railway Executive Committee Chairman of the Accountants' Sub-Committee for the year 1939.

Mr. W. G. Hills, Acting General Manager, Ceylon Government Railway, has been confirmed in the appointment as General Manager. On the retirement of Mr. E. W. Head, General Manager, in March, 1936, Mr. Hills was appointed to act in that post, and has done so since that date except for time spent on leave. He was born in 1885 and is the son of Mr. W. H. Hills, sometime Superintendent of the Line of the former Great Northern Railway. It was on that line that he gained his early railway experience, but was appointed District Traffic Superintendent on the Ceylon Government Railway in 1915. Within six years he rose to the position of Assistant Traffic Manager, and in February, 1924, was appointed to act as Deputy Traffic Manager; in October of that year he was promoted to act as Assistant to the General Manager. In April, 1925, Mr. Hills acted as Divisional Transportation Superintendent, a post in which he was confirmed in October, 1926. He acted as Deputy General Manager (Commercial) from December, 1930, to August, 1931, and in January, 1932, that post was combined with D.G.M. (Operating) and was filled by Mr. Hills until his promotion to act as General Manager four years ago.

Sir Zahid Suhrawardy, who vacates the post of President of the Indian Rail-



Mr. W. G. Hills

Appointed General Manager, Ceylon Government Railway

way Rates Advisory Committee on March 31, will be succeeded by Sir C. Madhavan Nair, formerly a Judge of the Madras High Court.

MEMORIAL TO THE LATE BRIGADIER-GENERAL G. H. HARRISSON

On December 30 an interesting ceremony took place in Concordia, Province of Entre Rios, Argentina, when Mr. John Wilson, O.B.E., General Manager of the Entre Rios and Argentine North Eastern Railways, unveiled the bronze dedication tablets and opened the iron gates which have been erected at the

main entrance to Victoria Park as a memorial to the late Brigadier-General Geoffrey Harnett Harrison, C.M.G., D.S.O., M.Inst.C.E., formerly General Manager of the Entre Rios and Argentine North Eastern Railways, who died in London on February 13, 1939. The cost of the memorial was subscribed by British and Argentine friends in Concordia and other parts of the country, a large number of whom attended the ceremony, at which practically the entire local British community was present. Before performing the opening and unveiling ceremony, Mr. Wilson in a short speech outlined General Harrison's varied and successful career, and paid a tribute to his brilliant gifts and outstanding qualities as a soldier and a sportsman as well as an able railway engineer and administrator. A portrait and brief biography of General Harrison were included in THE RAILWAY GAZETTE of February 24, 1939, at page 315.

Colonel J. A. Cross has been appointed Chief Commissioner of the Canadian Board of Transport Commissioners in succession to the Hon. Hugh Guthrie who died last November.

Mr. W. N. Connah has been appointed Secretary to the Fishguard & Rosslare Railways & Harbours Company.

From *The London Gazette* of March 1, 1940. Territorial Army, Royal Engineers: Sir Clement Daniel Maggs Hindley, K.C.I.E., M.A., M.Inst.C.E., M.Inst.T., M.I.E.(Ind.), V.D., to be Hon. Col. March 6, 1940.

Councillor S. P. Dawson, Chairman of the Finance Committee, Manchester City Council, has been chosen by the Council to be its representative on the directorate of the Manchester Ship



The "Harrison" gates. Left: View looking through the gates into Victoria Park, Concordia, Entre Rios. Right: One of the bronze dedication tablets which are on the pillar faces inside the park (see paragraph above)

Canal Company in place of Colonel George Westcott who has died.

Sir Bernard D. F. Docker, Chairman of the Birmingham Railway Carriage & Wagon Co. Ltd., was the subject of warm congratulations upon his recent knighthood and high tribute was paid to his abilities at the annual general meeting of the company held on February 29. Mr. Alfred R. Windle, Deputy-Chairman, in proposing the re-election, said that Sir Bernard possessed in full the qualities essential for a director of the company, and what was still more important, he had the unanimous support and confidence of his colleagues on the board. He congratulated him upon receiving a well-merited distinction for his very generous support and self-denying efforts on behalf of London hospitals. The Managing Director, Mr. H. J. S. Moyses, seconding the resolution, associated himself with Mr. Windle's remarks and added his tribute to the help Sir Bernard had given him in the management of the business.

NEW ZEALAND GOVERNMENT RAILWAYS STAFF CHANGES

Mr. G. H. Mackley, C.M.G., General Manager, has retired on superannuation, after 40 years of railway service.

Mr. E. Casey, Assistant General Manager, has been appointed to succeed Mr. Mackley as General Manager, with effect from February 1.

Mr. J. Sawers has been appointed Assistant General Manager in place of Mr. Casey.

Mr. H. Valentine, Second Assistant General Manager, has also retired after 40 years of railway service.

Mr. G. T. Wilson, Transportation Superintendent, retired on January 22, after 41 years' service.

Mr. A. L. Smith has been appointed Transportation Superintendent in place of Mr. Wilson.

FUNERAL OF MR. J. R. MORRIS

The funeral of Mr. J. R. Morris, Divisional Superintendent, G.W.R., Chester, from 1922 to 1938, whose death was recorded in last week's issue, took place on March 7, at St. James's Church, Chester. There was a large attendance, numbering approximately 185, which indicated the esteem in which Mr. Morris was held by all classes of the community. In addition to family mourners (who included Mr. S. Morris, Gloucester, and Mr. W. R. S. Morris), amongst those present were:—

Sir Henry Robertson, Director, Great Western Railway; Mr. George Orton, Commercial Assistant to Superintendent of the Line (also representing Mr. F. R. Potter, Superintendent of the Line); Mr. A. V. R. Brown, Divisional Superintendent, G.W.R., Chester; Mr. G. J. Vidal (also representing Mr. S. E. Parkhouse, Divisional Superintendent of Operation, L.M.S.R., Crewe); Mr. N. H. Bryant (also representing Sir Felix J. C. Pole); Mr. T. C. Sellars, District Traffic Manager, Oswestry; Mr. J. Mawson, Stationmaster, Chester; and many other representatives of the Great Western and L.M.S. Railways, and various local authorities and commercial firms.

Ocean Transport

An address to the Institute of Transport on the present and potential position and importance of the British mercantile marine by Mr. Robertson F. Gibb

Mr. Robertson F. Gibb gave an address at a luncheon of the Institute of Transport at the Charing Cross Hotel on Monday, taking as the title of his subject "Ocean Transport." It was fitting that he should have addressed members at this juncture because he has just served his term of President of the Chamber of Shipping and recently retired from the chairmanship of the Union-Castle Line. It was also appropriate that among those who were present to hear him were the Minister of Shipping, Sir John Gilmour, the Director-General, Sir Cyril Hurcomb, and the Parliamentary Secretary, Sir Arthur Salter, M.P., and although Mr. Gibb explained that the presence of these three distinguished officials of the Ministry might have tended to cramp his style, he would pretend that they were not there. Among those present were:—

Mr. A. W. Arthurton; Lieut.-Colonel P. M. Brooke-Hitching; Messrs. R. Carpmal, A. L. Castleman, H. M. Cleminson, E. C. Cox, Frank W. Crews, A. A. M. Durrant, Evan Evans, W. Flexman French, W. H. Gaunt, S. R. Geary, Sir Alexander Gibb, Mr. Robertson F. Gibb, Sir John Gilmour, Messrs. A. Winter Gray, R. H. Hacker, Sir Cyril Hurcomb, Messrs. J. A. Kay, R. Kelso, D. R. Lamb, Brig.-General Sir Osborne Mance, Mr. E. J. Missenden, Sir Arthur Salter, Messrs. C. J. Selway, G. F. Sinclair, Major-General Gilbert S. Szlumper, Messrs. John P. Taylor, Theodore E. Thomas, H. E. O. Wheeler.

Mr. Gibb prefaced his remarks by recalling that the tonnage owned in the British Empire at 1914 was 41 per cent. of the world total, whereas at the outbreak of war it was about 30 per cent. The tonnage of the British mercantile marine had remained stationary at twenty-one million tons, but there had been substantial increases in other countries, such as the United States and Japan, stimulated largely by Government shipbuilding grants and subsidies. That was because other countries, as a result of the last war, realised the need for possessing strong mercantile marines. The implications of these facts were seriously considered by the Government in 1938, when it made financial provision for subsidising tramp shipping, for setting aside a substantial fighting fund for use in certain liner trades, and for building new ships. All this had been shelved as the result of the outbreak of war, but he hoped that the decision that had been reached would come up for reconsideration when the war was over.

Mr. Gibb went on to pay a tribute to the courage and resource of the men who manned our Merchant Navy and said that it was characteristic of the British seaman that the first thing he did after losing his ship was to look for another one. A question asked by many people was whether in the near future air transport would supersede sea transport. That was not his

view. He thought that each form of travel was ancillary to the other and each had its special advantages.

At the moment the British shipping industry was under the control of the Ministry of Shipping which had requisitioned all liner and tramp tonnage. A great deal would depend on the extent the Minister intended to rely on the training and experience of shipowners. There had been considerable delay in the Government announcement of the terms they would pay owners for the use of the ships and the services of the shipping organisations, and he hoped that before long owners would have some reassurance from the Government as to what these terms would be. Owners were not asking for undue profits, but they wanted some margin left for use after the war, when they would have to face competition again.

Mr. Gibb expressed the anxiety of shipowners over suggestions tending towards the nationalisation of shipping and some feared that the longer the war and control went on, the nearer we should get to nationalisation. In this connection he quoted some remarks by Sir Philip Haldin, his successor in the chair, at the annual meeting of the Chamber of Shipping a few days ago, which struck a warning note against anyone who thought that nationalisation was a cure for the ills of British shipping, citing the experiences of other countries in that field; the losses of the United States Government in shipping ventures since 1918, for example, were £600,000,000.

In conclusion, Mr. Gibb observed that one of the things which contributed to the success of shipping was the adequacy and sound organisation of its ports, in which connection he instanced, with an eye on Major-General Szlumper, who was sitting near him, the enterprise of Southampton, which port his ships of the Union-Castle Line had used now for something like 100 years.

Forthcoming Events

- Mar. 15 (Fri.).—Electrical Development Association, at Savoy Hotel, Strand, London, W.C.2, 12.30 for 1 p.m. Annual luncheon.
- Mar. 19 (Tues.).—Institution of Automobile Engineers (Birmingham), at James Watt Memorial Hall, 7 p.m. Joint meeting with Inst. of Metals and Iron and Steel Inst. Symposium of papers on deep drawing research, by Profs. H. Swift, J. Andrew and C. Edwards.
- Mar. 20 (Wed.).—Institution of Automobile Engineers (Leeds), at Metropole Hotel, 6 p.m. "The theory of flexible mountings for internal combustion engines," by Mr. C. Iliffe.
- Mar. 29 (Fri.).—Institute of Transport (Edinburgh), at North British Station Hotel, 6.15 p.m. Annual general meeting.
- Mar. 30 (Sat.).—Permanent Way Institution (Manchester-Liverpool), at Ditton Depot. Inspection of creosoting plant in operation.

TRANSPORT SERVICES AND THE WAR—29

The Minister of Transport on wartime curtailment of road transport—The new co-ordination committee—The Railway Rates Tribunal—Passenger train reductions and coal transport in France—Italian coal imports—Finland

On two occasions last week Captain Euan Wallace, the Minister of Transport, took the opportunity of his presence as the guest of transport societies to outline the policy of the Ministry in relation to the position and functions of the various forms of British transport in wartime. On March 5 he addressed at the Savoy Hotel the 36th anniversary luncheon of the Commercial Motor Users' Association, and on March 6 he was the guest of the Mansion House Association on Transport at the Strand Palace Hotel.

Road and Rail Transport in Wartime

Captain Wallace's main statement on the railway preference of the Ministry of Transport, which is alleged in certain quarters, was made to the C.M.U.A. He said:—

"My first objective is to lay, once and for all, the bogey of a purely railway-minded Ministry of Transport. I know that a suspicion exists in your industry that we in Metropole Buildings have some bias in favour of the railways. It sprang originally from the fact that in wartime conditions much traffic, which was ordinarily carried by road transport with efficiency and despatch, was inevitably transferred to rail. It appears to have been reinforced by our financial agreement with the main-line railways and the London Passenger Transport Board. As regards transference of traffic from road to rail, this has nothing whatever to do with any personal bias of the Minister or his advisers, but is due solely to the fact that, whilst our railway system operates upon indigenous coal, road transport relies almost entirely upon the use of fuel which has to be transported from overseas and much of which has to be paid for in what today are aptly termed hard currencies. The best testimonial to the fairness of the railway agreement is the reception given to it both in the House of Commons and in the press. The object of the profit-sharing principle is to secure economy and efficiency of operation, and not to obtain a subvention for the Exchequer by the improper diversion of traffic from road to rail. There is only one limiting factor to the use of road transport in wartime, and that is the amount of fuel available for it.

"The second point I want to make follows naturally from what I have just said. A limited amount of fuel is allotted by the Mines Department to the Ministry of Transport for the use of commercial road transport, both goods and passenger; and our sole object is to use every gallon of this fuel to the best possible advantage. The scheme which we adopted for the allocation of an amount of fuel, which I repeat must in the national interest be limited, may not be perfect; and if a better one can be produced you may rest assured that it will not only be considered but adopted. The present scheme, however, has at least the merit of having been prepared in consultation with the Road Transport (Defence) Advisory Committee, a body which represents all interests concerned, including those of organised labour, in the transport industry, and for whose assistance my predecessors and I have been extremely grateful. The object of the scheme is to secure that the fuel available is made to carry not merely the maximum tonnage of goods but the maximum tonnage of those particular goods which either can be carried only by road transport or which, in the interest of the national war effort, are better carried that way. Suggestions have been made by representative bodies connected with the transport industry, to whose opinion I naturally attach considerable weight, that better results would be achieved by abolishing the present rationing scheme and substituting a new one based upon the prewar consumption of existing operators. Whilst, in individual cases, such a proposal has advantages, I am quite unconvinced that in existing circumstances it would be compatible with our policy of making the best use of our limited fuel resources.

"The fuel rationing scheme, a piece of administration which affects 200,000 operators owning 500,000 vehicles, is bound

to give rise to some inequalities and to some justifiable complaints, but every complaint of hardship or unfairness is carefully investigated, and adjustments made so far as is possible. The essence of petrol rationing, as indeed of our great road transport industry itself, is flexibility; and we try to make the maximum use of the local knowledge of the man on the spot. I have received an assurance from the Secretary for Mines that, unless some at present unforeseen change takes place, there is no reason to expect any reduction in the amount of imported fuel allowed for road transport.

"The whole question of the better co-ordination of internal transport is ever present to my mind; and I am glad to say that the Transport Advisory Council has at my request set up a committee to investigate, in the light of six months' war experience, whether by some substantial re-arrangement of methods of working a more efficient service can be provided.

LONDON AND SOUTH WESTERN RAILWAY.

Whilst certain arches and subways on the Company's premises will be available and open for such shelter as they may afford, it must be clearly understood that the public make use of the same at their own risk and that the Railway Company will not be responsible for any injury, damage or loss that may be sustained by persons using the premises as a shelter during air raids.

BY ORDER.
5-10-1940.

Typical of the shelter offered by the railways in the last war is the accommodation mentioned in this L.S.W.R. poster of October, 1917

On that committee are to be represented roads, railways, canals, coastwise shipping, industry (including trade and agriculture), and labour. I have every confidence that the individuals proposed by the council for this committee, to whose appointment I have given the most cordial approval, are the sort of men who intend to get on with the job as quickly as its great importance demands.

"I wish to pay my tribute to the way in which all those concerned in operating road transport have played their part during the past six months, and more especially the actual drivers of road transport vehicles. I did a certain amount of driving in the blackout in order to satisfy myself as to the wisdom or otherwise of imposing a lower speed limit in built-up areas; and I can appreciate from driving cars at least something of the strain of driving heavy road transport vehicles either for passengers or for goods. The Government fully recognises the vital importance of road transport in the successful prosecution of our national war effort, and it is the chief interest of the Ministry to secure that all forms of internal transport, road, rail, and canal, are used to the best possible advantage."

Captain Euan Wallace and the Railway Rates Tribunal

At the annual luncheon of the Mansion House Association on Transport on March 6 (reported on page 393), Captain Euan Wallace gave his assurance that there was no intention of abolishing the Railway Rates Tribunal in consequence of the Government's agreement with the railway companies; nor was it intended to suspend its jurisdiction in regard to the general level of charges. This reservation, he said, enabled him, as Minister, to adjust railway charges in the light of variations in costs and conditions arising from the

war. Had the tribunal been left the jurisdiction it enjoyed before the war, it would have been obliged to adjust rail charges to produce the Standard Revenue. In pre-war times any attempt to raise the railway charges to an extent sufficient to produce for the companies their Standard Revenue would have defeated its own object. Now, however, petrol rationing and the subsequent inevitable diversion of much traffic from road to rail might well have the object of attaining the Standard Revenue by way of increased charges. Had the tribunal been left in the position it previously occupied, it would have been bound to agree to increased charges to bring about that result. Nevertheless, the tribunal's jurisdiction in other matters, such as special rates, would remain unimpaired.

Wartime Traffic Trends

Despite widespread restrictions on traffic made necessary by adverse weather and enforced in order to prevent congestion in the marshalling yards, during the first six weeks of the year goods traffic originating on the L.N.E.R. increased by 11 per cent. in volume compared with the same period of 1939. The *London & North Eastern Railway Magazine* points out that landsale coal traffic increased by 4 per cent., but shipment coal declined by one-third in the same period. Passenger traffic, which during the last three months of 1939 had fallen by 26 per cent., is now only about 13 per cent. less in volume than in the previous year, and some of the large stations are actually taking as much money as they did twelve months ago.

On the Great Western Railway severe weather conditions seriously affected the company's business during the latter part of January. This factor is reflected in the operating results for the four weeks ended February 4, causing some reaction in the freight revenues compared with those recorded in recent months. The *Great Western Railway Magazine* gives coaching receipts as 6 per cent. greater than those of the corresponding period of 1939, merchandise receipts as 38½ per cent. higher, and coal receipts as 29½ per cent. higher, giving an increase of 24½ per cent. in total traffic receipts. Coaching train mileage run during the four weeks showed a reduction of 21½ per cent. compared with the previous year; freight train mileage was 7 per cent. greater. Coal shipments at the company's South Wales docks fell by 2½ per cent., but the total exports were slightly higher, and the total dock receipts increased by 10½ per cent.

Amenities for Travelling Servicemen

From time to time we have recorded developments in the arrangement of canteens and other accommodation for members of the Forces, and a recent letter we have received from Sir Frank Fox, Press Officer of the Y.M.C.A. gratefully acknowledges the cordial help given by the British railway companies in the task of providing such amenities for travelling servicemen at the railway centres assigned to that organisation. Dormitory accommodation is found by experience to be the chief need at junctions where long waits are necessary. An example of the co-operative spirit is provided at Newcastle Central, where the L.N.E.R., as a temporary measure, is keeping the waiting rooms open all night, and is considering the provision of sleeping carriages in sidings. Meanwhile, the Y.M.C.A. is organising private billets in the neighbourhood of the station. In several centres Y.M.C.A. concert halls and recreation rooms near the stations are being fitted up as dormitories to offer at least a warm, comfortable shakedown. Thus, Bristol has provided 60 extra beds in its concert room. Reading has converted its lecture hall, library, and parlour, and has as many as 70 guests a night. A Y.M.C.A. "get-you-home" service is proving valuable. With the voluntary aid of motorists, travelling soldiers are taken to their homes after public road services have ceased, or to the homes of residents who can offer a night's hospitality. At Doncaster recently, a soldier from France arrived at midnight on special leave because his child was ill with pneumonia. Despite fog, he was taken to his home at Scunthorpe in North Lincolnshire. Returning to Doncaster at 2.30 a.m. the Y.M.C.A. motorist took another stranded soldier home to Conisborough. Nottingham Y.M.C.A. provides for temporarily stranded men of the Forces a meal, bed, and bath, or otherwise arranges

transport from the railway station and accommodation in private homes. A further link in the chain of station canteens was completed on January 18, when an up-to-date Y.M.C.A. canteen was opened at Harrogate station, L.N.E.R., by the Mayor, Councillor J. C. Topham. Generous tribute was paid to the part which the railway company had played, in conjunction with the military authorities, in ensuring the success of the venture. A Y.M.C.A. refreshment hut, for men of the Forces passing through Cardiff, is now being built at the G.W.R. General station.

The reply to a Question in Parliament the other day (see page 392) revealed that the various organisations co-ordinated in the Council of Voluntary War Work are operating 40 canteens at railway stations in London and the provinces, and 26 more will be opened shortly.

Gas Masks

All employees of the London Passenger Transport Board have been instructed to bring their gas masks to work and to keep them readily available. The official notice says: "Should an air raid occur in which gas is used, any member of the staff not at the time in possession of his or her respirator would be liable not only to become a casualty, but to become a nuisance to the community. Staff are accordingly instructed that they are required to carry their gas masks when reporting for duty on all occasions and to keep them readily accessible while on duty, and suitable disciplinary measures will be taken in cases where this regulation is not observed."

A complete inspection and test of the gas masks which have been issued to the public, has been asked for by the Ministry of Home Security in a circular to local authorities. It is indicated that the inspection should be carried out by air raid wardens. The fact that many members of the public have become lax over the care of their respirators during recent months is one of the reasons for this careful inspection. In the near future, a charge is to be made on members of the public whose respirators need to be replaced through loss or damage; this will come into operation at a date to be announced shortly, and, in the meantime, lost or damaged respirators are being replaced free of charge.

Passenger Train Reductions in France

In consequence of the goods traffic difficulties in France due to the severe frosts and heavy snows this winter, the French National Railways Company (S.N.C.F.) has further reduced the number of passenger trains. The reduction took effect on February 25 and was notified to the public only the previous day. Passengers were informed that they must apply at the stations for details concerning the trains. It was intimated, however, that the restrictions, like those made in January, would be temporary and would apply mainly to ordinary slow trains making frequent stops. While numerous trains were taken off, the timetables permit of return journeys being made in the same day. Although the new measures subject the public to further inconvenience, the S.N.C.F. has pointed out that the maintenance of the country's supplies must be assured. As soon as this aim has been achieved, the customary travel facilities will be restored.

French Coal Transport

M. Anatole de Monzie, Minister of Public Works, has since indicated in an interview that the congestion of the coal traffic was the chief cause of the new restrictions on passenger traffic. He said that complaints had been made in Parliament that there was a dearth of goods wagons. While admitting that the country had need of as many wagons as possible in the circumstances, the Minister stated that the rolling stock would soon be increased by 30,000 new wagons, which had been purchased with admirable foresight. The existing rolling stock had been fully used, continued M. de Monzie. In the last three months, except during the three weeks of intense frost, the total of wagons loaded had always been greater in the previous year, despite the fact that large numbers of wagons had been retained in military service at goods depots and near the front. Not only had the number of wagons loaded increased by 10 per cent., but the mileage also had risen by more than 40 per cent. About 800,000 tons of coal had been loaded at the pitheads the previous week. On February 26, a hundred trains with 90,000 tons of coal

had been despatched from the mines in the Nord department. Trains conveying 5,000 tons of early vegetables had left Marseilles in the last week.

Wagon User in France

More important than the actual number of wagons, said the Minister, was the rhythm of their return. Consignees were required to unload and return wagons immediately. He cited the use of wine tanks. Wine merchants, who had been accustomed to leisurely methods, had willingly conformed to the new discipline. Nor must wagons be left an hour unloaded in the ports. Co-ordination of road, rail, and water transport was now tending to become collaboration. A committee, comprising the S.N.C.F., and public and private carriers, had prepared for him, and with him, an agreement which practically ensured such collaboration. To speed up the return of wagons, M. de Monzie recently made a special visit to Marseilles. In the course of his inquiry, he gave instructions to the port authorities to ensure the rapid discharge of wagons on arrival and the no less rapid loading of wagons for departure. He indicated the steps to be taken to avoid congestion of goods at the port due to imperfect co-ordination of the services. The possibility of increasing facilities by a further extension of the port of Marseilles was also discussed.

The Paris Metro

The Paris Metro authorities have announced that all soldiers on leave will receive two tickets for the Metro on their arrival at a Paris main-line terminus. One of these tickets is to be used by the soldier to travel on the Metro to his destination in Paris and the other for his return journey. These tickets are purchased by the army authorities from the Metro for the use of men on leave. On other occasions, soldiers must buy their own Metro tickets at the ordinary rates.

Italian Coal Imports

The enforcement from March 1 of British contraband control on German coal consigned to Italy, which will affect about two-thirds of the normal Italian imports of foreign coal, has been widely regarded as a shipping matter, but the importance with which Italy views the situation contains some international railway implications. Twelve million tons of foreign coal (ten million from Germany) are imported in Italy every year. Of these about 2,000,000 tons are used by the railways, despite the latest railway electrification work, and the introduction of home-produced coal for heating trains, stations, and railway offices. From the beginning of the war, overland transport on a large scale from the Saar basin was attempted and carried out for a short while, until the Swiss railways found themselves unable to stand the pressure, and the exceptionally heavy goods traffic between Germany and Italy via the Gotthard route was reported to have ceased by October 1 (see page 471 of our October 6 issue). The early resumption of sea transport via Rotterdam showed that the other railway passes (Brenner, Tarvis, Piedicelle, Postumia) directly or indirectly connecting the Italian and German railway systems, were inadequate to meet the additional demand. High costs and shortage of railway wagons in Germany have added to the difficulties. A Swiss statement says that, since the beginning of the war, the Swiss railways have transported 45,000 tons monthly to Italy, but that neither Switzerland nor Italy can lend wagons to Germany.

The British contraband control action, which, incidentally, is taken under the Order in Council issued by the British Government on November 27 last banning German exports as a reprisal against Germany's breach of international law by her unrestricted submarine campaign, has revived the importance of the overland routes. The Rome paper, *Tribuna*, wrote on February 29 that "two-thirds of Italy's coal supplies from Germany reach her overland," but this is almost certainly a considerable exaggeration, and well-informed Swiss opinion doubts whether more than two million tons could be carried by rail from Germany to Italy—or one-fifth of the total imports—in peacetime, and one million tons in present circumstances. Reuters reported from Lucerne on March 6 that trainloads of German coal are passing daily over the Simplon and Gotthard routes, and

that return loads are mainly Italian agricultural products such as fruit and early vegetables. This traffic is stated to be of sufficient volume to have caused the Swiss Federal Railways to bring all reserve locomotives into service and to engage extra staff. The *Neue Zürcher Zeitung* stated in a message from Berlin: "Anglo-Italian relations are causing great excitement in Berlin. German production is capable of supplying the 3,000,000 tons of coal offered by England, but the transport difficulty is great, as the present state of German railways makes rail transport almost unthinkable."

It is reported from Belgrade that the Yugoslav railway authorities were notified by Germany on March 6 that the Reich would henceforward be dispatching five trains daily laden with Silesian coal via Maribor and Ljubljana, destined for Italy. The message, which was dated March 8, added that the consignments had already begun.

Railways and the Invasion of Finland

Once again railways constituted the key to the activities in the Russo-Finnish campaign, and the fate of Viborg (Viipuri) was more of railway (and, consequently, strategic) importance than of direct military significance as a post. On February 19 the Russians claimed to have captured Tainii railway station, which represented an advance of about 16 miles on their previously known position. It was unofficially reported on February 22 that the Finns had destroyed their three railways leading south-east from Viborg, and this gave a hint of retreat which was confirmed by the announcement on February 26 of abandonment of Koivisto, with its great coastal batteries. On the latter date, although Viborg station roof had received two direct hits from raiding aircraft, railway traffic to the west continued, as the apparently-vulnerable railway bridge across the Viborg inlet had escaped repeated attacks by Russian bombers. The town had been abandoned by its civilian population for some weeks, the last 5,000 of the pre-war 80,000 having left in mid-February. It is these three lines south-east of Viborg which the Russians claim to have captured on February 29.

It is doubtful whether Viborg, in its present ruined state as the result of repeated large-scale air raids, has any military significance excepting as a railway junction, as stated above. The main Mannerheim Line of defence is understood to run behind the town, to the westward. Had Viborg fallen, however, the Finns would have lost access to the direct railway link between the south of the country and the front north-east of Lake Ladoga, that running from Viborg to Sortavala. They would have had somewhat farther to the west a single-line link of limited capacity from Simola on the Helsinki-Viborg railway to a point south-west of Sortavala. It is reported that the strategic railway shown on our map of January 12 as under construction between Vuoksenniska and Elisenvaara has now been completed. On the eastern fronts north of Lake Ladoga the Finns had the advantage of a railway running roughly parallel to the general front, from Sortavala over Joensuu and Kontiomäki to Oulu on the Gulf of Bothnia. Had one of the Russian thrusts north of Ladoga resulted in a break through, leaving a section of this railway in Russian hands, the continued Finnish defence would have taken on a very different complexion, as we have already pointed out in these columns.

Apart from the attack on Viborg, the Russians continued to direct attention to the Finnish railways generally. The train from Turku (Åbo) to Helsinki was heavily bombed by Russian airmen 20 miles west of the capital on February 20, for example. Two persons were injured by glass splinters when bombs exploding beside the train shattered the compartment windows. A few days earlier a Red Cross ambulance train was attacked, and photographs have reached this country showing one coach (converted from modern second class Finnish rolling stock) completely burnt out. The railway junction of Joensuu, in central Finland, has also been raided from time to time.

It is now announced that armistice terms between Russia and Finland became effective at 11 a.m. on March 13. The draft terms of the proposed treaty envisage the cession by Finland of the Karelian Isthmus, including Viborg and the Viborg-Sortavala railway, as well as other territory totalling in all 15,000 sq. miles.

MERSEY RAILWAY COMPANY

Financial arrangement with Government for wartime control

The annual general meeting of the Mersey Railway Company was held at Winchester House, Old Broad Street, E.C.2, on March 12, Mr. John Waddell, Chairman of the company, presiding.

The Secretary (Mr. J. E. Blacklin) read the notice convening the meeting.

The Chairman, in moving the adoption of the report and accounts, said that stockholders would be aware that the meeting was being held 2½ weeks later than had been the practice for some years past. The reason was that owing to the negotiations for the terms of compensation to be paid by the Government for the control of the railways not having been concluded, the announcement of the dividends to be paid, the issue of the statement of accounts, and the date of the annual meeting, had had to be delayed. The terms of compensation for the use of the main-line railways and the London Passenger Transport Board were based on a guaranteed minimum net revenue equivalent to the average net revenue of the main-line companies for the years 1935-6-7, and in the case of the transport board the guaranteed net revenue was based on the year ended June 30, 1939. Certain provisions had also been formulated for increases over the guaranteed minimum.

In the opinion of the board of the Mersey Railway Company the terms arranged for the main-line companies would not be equitable to the Mersey Railway Company for the following reasons:—

1.—In March, 1938, the conditions under which this company operated were completely altered inasmuch as prior to that date the Mersey Railway Company operated only a shuttle service between Liverpool and Birkenhead. In March, 1938, the L.M.S.R. had completed the electrification of the Wirral section of its undertaking at considerable expense. This company also had spent a large amount of money in adapting its railway for the through services and the two companies joined in providing the necessary rolling stock, etc., to enable a through service of electric trains to be operated between Liverpool and the Wirral section of the L.M.S.R.

2.—In 1938 the main-line companies were showing a decline in net revenue, but the Mersey company was showing a substantial increase.

The board therefore submitted to the Ministry of Transport that the special circumstances of the Mersey Railway Company should be fully recognised and that the compensation should, as a minimum, be based on the net revenue for the year ended June 30, 1939—which period was as nearly as possible the first complete year of the changed conditions—and that there should be a commensurate addition for the natural growth of traffic to be realised from the developments due to the changed conditions, and which both the Mersey company and the L.M.S.R. realised would take some years fully to mature.

The Ministry had recognised the justice of the case, and had agreed to a guaranteed minimum net revenue of £100,015 per annum, equivalent to that of the year ended June 30, 1939.

After outlining the agreement between the companies and the Government, he said that it had been agreed that the Mersey company would participate in the pool with the main-line companies and the board for a proportional share of the increase in the net revenue beyond the guaranteed minimum.

Turning to the financial results, he said that the net revenue figure shown included the net revenue earned during the eight months prior to control together with an estimated adjustment based on the guaranteed minimum for the four months of control from September 1, 1939. This amounted to £100,938, as compared with £94,667 for 1938, an increase of £6,271.

The board had allocated £9,500 to the renewal funds and had withdrawn during the year £6,774. The total of the

renewal funds was now £90,604, as compared with £87,879 for 1938. The board had placed £2,000 to the general reserve fund instead of £1,000 as in the last few years. This would bring that fund up to £28,000.

The year under review was the first full year of the through working of electric trains with the L.M.S.R. between Liverpool and West Kirby and Liverpool and New Brighton. Owing to the increased and accelerated service of through trains, the traffic was developing, as had been anticipated, and was satisfactory. There was no doubt that the position which he had reported had largely resulted from the introduction of these through services. In addition to serving a good residential area the through trains served a number of seaside resorts and catered for a large holiday traffic, particularly at week-ends, from Liverpool, and this traffic had been adversely affected by the inclement weather during the summer and again, during September, by the outbreak of war.

The Merseyside Co-ordination Committee, which consisted of members appointed by the municipalities of Liverpool, Birkenhead, Wallasey, Bebington, and Bootle, had instructed three experts to report on the question of the co-ordination of the Merseyside transport undertakings. This report was submitted to the committee last March, but so far copies had not been circulated to the affected non-municipal undertakings. According to the press, the experts in their findings stated that while a co-ordination scheme was needed, compulsion was not recommended, nor was the time considered propitious for the setting up of a Merseyside transport board on the London pattern. Co-ordination on a voluntary and advisory basis was suggested, which would probably mean that an increase of fares and charges of the whole of the Merseyside undertakings would have to be considered and put into operation in such a manner so as not unduly to upset the flow of traffic in any one direction.

The war and the Government control had interrupted the increases in net revenue which could be expected from the development of traffic conveyed on the railway. Instead of which they were now brought on to a national basis and for the duration of the control they would have to depend for any increase of net revenue on the results of the controlled railways as a whole, receiving as an addition to their guaranteed minimum, a percentage amounting to approximately ¼ of 1 per cent. of the pool, the total of which might vary between the approximate £40 millions, being the guaranteed net revenue of all the controlled undertakings, and the maximum of £56 millions, as arranged between the railway companies and the Government.

The report and accounts were adopted; the retiring director, Mr. John Waddell, was unanimously re-elected; the retiring auditor, Mr. Alex. D. Walker, was re-appointed; and the proceedings closed with a vote of thanks to the Chairman, directors, and staff.

Birmingham Railway Carriage & Wagon Co. Ltd.

The annual general meeting of the Birmingham Railway Carriage & Wagon Co. Ltd. was held at Smethwick on February 29. Sir Bernard D. F. Docker, Chairman of the company, presided.

The Chairman, in moving the adoption of the report and accounts, said that carriages and wagons let on hire-purchase showed a reduction of £21,623. Up to the outbreak of war all payments had been met when due, but the company had now, as a temporary measure, extended the terms of outstanding amounts. Income tax, excess profits tax, and National Defence Contribution would take a very heavy toll from the company. It would be recalled that the years 1936 and 1937—on which it was proposed that the company's standard of profit was to be based—were not favourable to

the undertaking, and when the time arrived representations would be made in the proper quarter for special consideration. In the meantime ample provision had been made for liabilities in this direction.

The provision of A.R.P. was a costly item—the arrangements for the protection of personnel were practically completed, but further expenditure would still have to be incurred on the protection of vital plant and the obscuration of light; the fact that the company had over 15 acres of glass in its buildings would indicate what this meant. The adaptation of plant for purposes for which it was not originally intended was another task which had to be faced.

The change over from peacetime to wartime conditions was so complicated and involved that it was impossible to forecast all the contingencies that might have to be met. He had in mind particularly pre-war contracts for overseas markets, which the company had still to fulfil. A substantial part of the company's output last year was exported,

and it was still continuing to send shipments of rolling stock to various parts of the world. It was also continuing to take orders for overseas, as the directors felt that they must not only do their utmost to preserve these markets, but that it was vital to the national interests that the export trade of this country should be expanded to the greatest possible extent.

The whole of the company's facilities had been placed at the disposal of the Government and were being put to the best possible use in the one cause that really mattered—the winning of the war. At the same time the board was not neglecting its normal business of the construction of all types of railway rolling stock, for which a considerable demand existed and in which the company was participating to the full extent of available capacity.

The report and accounts were adopted and Sir Bernard, who retired by rotation, was unanimously re-elected a Director.

High Speed Locomotive Work in Belgium

Remarkable performances by the new Atlantic locomotives and the standard Pacifics on the Brussels-Ostend line

It is clear from the logs published on this page that the new streamlined Atlantics of the Belgian National Railways, described and illustrated in the April 21, 1939, issue of THE RAILWAY GAZETTE, have found no difficulty in maintaining the 60 min. schedule introduced last summer over the 71.0 miles between Brussels and Ostend, inclusive of a one-minute stop at Bruges. The latter divides the run into two sections—Brussels Midi to Bruges, 57.4 miles, in 46 min., at 74.9 m.p.h. start to stop (the second fastest run with steam in the world), and Bruges to Ostend, 13.6 miles, in the very sharp time, for

that the maximum inclination for the most part is 1 in 500, and long stretches of the line are level. There are no service slacks, it being permissible to pass both Ghent and the new station at Bruges at full speed. Opportunity is taken also to incorporate some notes on the performance of the highly efficient semi-streamlined Pacifics over the same route, with considerably heavier trains.

On the first of the two Brussels-Ostend journeys tabulated, 30 per cent. cut-off was used from the start to km. 3, with the regulator opened sufficiently to give 200 lb. per sq. in. pressure in the steamchest (the boiler pressure is 261 lb.); then the cut-off was brought back to 20 per cent. for the 1 in 200 ascent, which with 220 lb. in the steamchest gave a sustained speed of 68 m.p.h. For the rest of the journey to Bruges 20 per cent. cut-off was used throughout, variations being made in the regulator openings; 90 lb. pressure in the steamchest was sufficient for 75 m.p.h. down 1 in 200, and 140 lb. for the same speed down 1 in 500, while with 205 lb. 75 m.p.h. was maintained up 1 in 500, and 200 lb. pressure gave sustained speeds of 87 to 89 m.p.h. on the level between Ghent and Bruges. The 47.7 miles between km. 10 and Oostkamp were run at an average of

81.0 m.p.h. On the second run there was a considerably faster start; cut-off was 30 per cent. to km. 6 and 20 per cent. throughout after that; 230 lb. pressure in the steamchest gave a maximum speed of 90 m.p.h. on the level at Landegem. On a third run, not tabulated, with No. 1202 and 160 tons, the cut-off was brought back to 15 per cent. at km. post 13 (just beyond the summit), and so remained to Bruges, with the regulator half open as far as Ghent, and three-quarters from there onwards, with the result that a maximum of 95 m.p.h. was reached. Beyond Ghent speed was maintained continuously at between 89 and 95 m.p.h., and Bruges was reached in 44 min. 30 sec. (77.4 m.p.h. start to stop from Brussels). Another notable feature of the run last-mentioned was an acceleration from 56 to 75 m.p.h. up the initial climb out of Brussels, with 75 m.p.h. sustained on the 1 in 200. Boiler pressure was easily maintained at 260 lb. per sq. in. Were the speed limit uniformly 91 m.p.h. throughout the journey, there is little doubt that the Brussels-Bruges run could be made in 43 min., at a start-to-stop average of 80 m.p.h.

With the Pacifics, longer cut-offs and smaller regulator openings than with the Atlantics appear to be customary. No. 123, with the 365-ton train, was taken up the ascent out of Brussels on 30 per cent. cut-off, and with 170 lb. in the steamchest, which gave an acceleration from 57 to 59 m.p.h. Cut-off was

BELGIAN NATIONAL RAILWAYS: OSTEND-BRUSSELS

Distance	Engine No. Engine type Load (tons tare) " (" gross)	1202 4-4-2 156 160	131 4-6-2 414 440
Miles		m. s.	m. s.
0-0	OSTEND ..	0 00	0 00
4-2	Oudenburg ..	4 48	6 02
9-4	Varsenare ..	9 04	10 45
13-6	BRUGES ..	12 50	16 30
3-5	Oostkamp ..	3 53	5 16
9-9	Maria-Aalter ..	8 15	10 48
14-7	Belleu ..	11 22	14 30
22-4	Tronchiennes ..	16 45	20 25
24-9	GHENT ..	18 35	23 15
28-2	Km. 47 ..	21 00	25 03
35-7	Km. 35 ..	26 44	31 35
42-5	Km. 24 ..	32 09	37 20
46-2	Km. 18 ..	34 55	40 20
51-2	Km. 10 ..	38 52	44 50
55-5	Km. 3 ..	42 25	48 30
57-4	BRUSSELS MIDI	45 45	51 45

so short a run, of 13 min. The load of the service has been light, however, not normally exceeding 160 tons, and the easy gradients and excellent alignment of the route adapt it perfectly to high speed. Out of Brussels a limit of 25 m.p.h. is imposed over the first kilometre, after which there are limits of 77½ m.p.h. to Ghent and from Bruges to Ostend, and 91 m.p.h. between Ghent and Bruges. The only gradients of note are a 6-mile ascent, partly at 1 in 200, which begins half a mile after leaving Brussels, and culminates in a summit 194 ft. above sea level, between km. posts 10 and 11, followed by a descent which for 4½ miles is at 1 in 200; after

BELGIAN NATIONAL RAILWAYS: BRUSSELS MIDI-OSTEND

Distance	Engine No. Engine type Load (tons tare) " (" full)	1203 4-4-2 156 160	1203 4-4-2 156 160	Distance	123 4-6-2 348 365	127 4-6-2 501 525
Miles		m. s.	m. s.	Miles	m. s.	m. s.
0-0	BRUSSELS MIDI ..	0 00	0 00	0-0	0 00	0 00
1-9	Km. 3 ..	3 45	3 05	1-9	4 30	4 40
6-2	Km. 10 ..	7 50	7 01	6-2	9 27	9 50
11-2	Km. 18 ..	11 42	10 55	11-2	13 30	14 35
18-0	Km. 29 ..	17 01	16 32	18-0	19 04	20 35
24-8	Km. 40 ..	22 20	21 53	24-8	24 25	26 25
29-2	Km. 47 ..	25 43	25 19	29-2	28 10	30 12
32-5	GHENT ..	28 12	27 49	32-5	31 45	33 40
35-0	Tronchiennes ..	30 02	29 45	35-0	34 08	36 20
42-7	Belleu ..	35 20	34 59	40-2	40 34	42 49
47-5	Maria-Aalter ..	38 34	38 14	45-0	44 15	46 28
53-9	Oostkamp ..	42 57	42 47	51-4	49 35	51 30
57-4	BRUGES ..	46 00	45 50	57-4	53 55	56 00
4-2	Varsenare ..	4 39	4 33	4-2	5 40	5 45
9-4	Oudenburg ..	8 55	8 50	9-4	10 25	10 32
13-6	OSTEND ..	13 15	13 00	13-6	14 50	15 05

then brought back to 28 per cent., and after the stop at Ghent speed was maintained at between $74\frac{1}{2}$ and $77\frac{1}{2}$ m.p.h. on to Bruges; with 85 lb. pressure in the steamchest a speed of $71\frac{1}{2}$ m.p.h. was maintained on the level, and 115 lb. was enough to maintain $74\frac{1}{2}$ m.p.h. up 1 in 550. On the run with No. 127, hauling 525 tons, 30 per cent. cut-off was used for most of the journey; between Ghent and Bruges a speed of 80 m.p.h. was reached on the level with a pressure of 140 lb. in the steamchest, while 25 per cent. cut-off and 180 lb. pressure maintained 79 m.p.h. up 1 in 550.

In the reverse direction two runs are tabulated. On one of the 60-min. trains the Atlantic made a fast start by running the 13.6 miles from Ostend to Bruges in 12 min. 50 sec. start to stop, with a maximum of 79 m.p.h., and a still more remarkable exit from Bruges, as the train was travelling at 87 m.p.h. only $3\frac{1}{2}$ miles out of Bruges, with no more assistance from gravity than a 1 in 500 down gradient for the first 2 miles. This was achieved on 20 per cent. cut-off, with 240 lb. pressure in the steamchest, and was followed by a steady 90 m.p.h. for 10 miles, with cut-off varying from 15 to 17 per cent., and steamchest pressure from 200 to 215 lb. The 18.9 miles from Oostkamp to Tronchiennes were covered at an average of 88.1 m.p.h. On the $4\frac{1}{2}$ miles up at 200 which lead to the summit at km. 10.8, 20 per cent. cut-off and 215 lb. steamchest pressure kept the speed at 72 m.p.h. The 52.0 miles from Oostkamp to km. 3 were run in 38 min. 32 sec., at an average of 81.0 m.p.h. The footplate observers on these runs comment on the steadiness of the Atlantics even at the highest speeds, and the complete absence of rolling or pitching; another feature is the low coal consumption, so that despite the use of very small coal—almost slack—the fireman was able to spend considerable periods sitting down, between his spells



Ostend-Brussels express passing Varsenare hauled by four-cylinder simple Pacific locomotive No. 129

of firing. The highest speed yet recorded over this route was made by one of the Atlantics—No. 1202—which on a demonstration run immediately prior to the introduction of the 60-min. service, with the maximum permitted five-car load of 250 tons, attained a maximum of 165 km.p.h. ($102\frac{1}{2}$ m.p.h.) on virtually level track between Bruges and Ghent, without any serious attempt having been made to establish a speed record. It may be noted that of the six new streamlined Atlantics No. 1205 has poppet valve gear and No. 1206 Caprotti valve gear, while Nos. 1201-4 have Walschaerts valve gear.

On the eastbound Pacific run, No. 131,

with 440 tons, touched 75 m.p.h. between Ostend and Bruges, and 81 m.p.h. at Bellem, between Bruges and Ghent, where 15.3 miles from Beernem to Tronchiennes were covered at an average of 77.0 m.p.h.; this was with 30 per cent. cut-off and 130 lb. in the steamchest. On another eastbound run, not tabulated, in very bad weather, Pacific No. 120 had a very heavy load of twelve all-steel cars, weighing with passengers and luggage fully 700 tons, to work from Ostend to Brussels on a non-stop schedule of 63 min. for the 71 min., and further handicaps were very bad weather and a 5-sec. signal stop almost immediately after starting. After restarting from this stop, a speed of $77\frac{1}{2}$ m.p.h. was reached before Bruges, which was passed at $74\frac{1}{2}$ m.p.h., and from there onwards 75 to 85 m.p.h. was maintained all the way to Ghent—an outstanding effort with a train of this weight. The cut-off used was 25 per cent., with about two-thirds regulator, and the firing needed to produce an adequate supply of steam was practically continuous; boiler pressure was kept well up to the rated 261 lb. After Ghent, speed ranged between 72 and 75 m.p.h. until the train reached the $4\frac{1}{2}$ miles up at 1 in 200, which were surmounted at a minimum of 60 m.p.h. Despite further signal delays, Brussels was reached in the allotted time, and the net time for the 71.0 miles did not exceed 60 min. The design of these Pacifics aimed at the haulage of a 700-ton load on the level at 75 m.p.h., and it is clear from the foregoing particulars that this aim has been more than realised.

It had been intended to maintain one of the 60 min. services each way between Brussels and Ostend daily throughout the winter, but owing to war conditions they ceased to run in September last.



High-speed Brussels-Ostend express on arrival at Ostend hauled by a new streamlined two-cylinder Atlantic locomotive No. 1201

QUESTIONS IN PARLIAMENT

Footbridge over G.W.R. at Swansea

Mr. J. Mort (Swansea East—Lab.), on February 28, asked the Minister of Transport if he would cause enquiries to be made into the closing of a pathway bridge over the Great Western Railway at St. Thomas, Swansea, which gave quick access to the Prince of Wales Dock, and now that it was closed workmen had to walk a long circuitous route to get to their work; and, as this bridge also affected the businesses of the locality and people did not shop in the area as a result of the closing of the bridge, would he take steps to ensure its opening as it was open during the last war.

Captain Euan Wallace: It was decided at the outbreak of war that in the interests of national security this footbridge, which crosses a number of railway lines and junctions in the dock area, must be closed to the public. In the circumstances, I regret that I am unable to comply with the hon. member's request that the bridge should be re-opened.

Overcrowding of Passenger Trains

Mr. J. Batey (Spennymoor—Lab.), on February 29, asked the Minister of Transport if he was aware of the seriously overcrowded condition of the passenger trains this week running between Newcastle and King's Cross, compelling soldiers, unable to obtain seats, to stand in the corridors; and would he say how long this condition was to continue.

Captain Euan Wallace: As I foreshadowed in the statement which I made on February 21, the programme of additional trains of coal from Durham and Northumberland necessitates a considerable reduction of passenger services on the main lines between Newcastle and London. This has resulted in some overcrowding of the remaining services. To mitigate the inconvenience as far as possible, trains are being lengthened to full engine capacity and ordinary coaches are being substituted for sleeping cars on the night trains. In view of the importance of building up stocks of coal the reduction of passenger services will, I regret, have to continue until adequate reserves have been accumulated.

Traffic Congestion and the Gattie Scheme

Sir Cooper Rawson (Brighton—C.), on February 29, asked the Minister of Transport if, in view of the recent congestion on the railways north of London, which would have been much intensified in the event of increased war traffic, he would revive consideration of the Gattie system for railway traffic clearance in the London district and provide accommodation for increased road traffic to deal with this and other problems.

Captain Euan Wallace (Minister of Transport): The recent congestion on

the railways was due primarily to the quite abnormal weather conditions, and would not have been avoided had the system to which my hon. friend refers been in operation. The Gattie Scheme was the subject of a report by a Departmental Committee in 1920, which did not recommend its adoption. In any case, however, the dislocation which would inevitably result from an attempt to adopt such a system in wartime, as well as its cost, estimated at the prices prevailing before 1914 at about £300 millions, preclude its adoption in present circumstances.

Bread Traffic on Scottish Railways

Mr. Robert Gibson (Greenock—Lab.), on March 4, asked the Minister of Transport what quantity of bread was transported by rail from Glasgow on each day, respectively, of the week ending Saturday, March 2, 1940; what rolling stock, respectively, was required for its transport; into what counties of Scotland it was so transported; what quantities were so transported to Greenock, Edinburgh, Dundee, Aberdeen, Perth, Oban, and Inverness, respectively; and what proposals he had to make, in conjunction with other Government departments, to relieve the railways of this traffic during the wartime emergency.

Mr. R. H. Bernays (Parliamentary Secretary to the Ministry of Transport): I am advised that the amount of traffic in question is not so substantial as to warrant interference with the normal commercial and somewhat specialised system of distribution. The detailed information for which the hon. and learned member asks could not be obtained without an expenditure of time and money which my right hon. friend could not regard as justified in wartime.

Mr. Gibson: Is the hon. gentleman aware that bread is sent as far north as Sutherlandshire, and that special bread trains run from Glasgow to Dundee, and that Glasgow bread goes as far south as Galloway; and can he say, approximately, what the amount of rolling stock is involved in this traffic?

Mr. Bernays: I cannot say without notice. If the hon. and learned gentleman has a case to put to me on this matter, I shall be very glad to consider it.

Railway Rates Tribunal

Mr. G. Ridley (Clay Cross—Lab.) asked the Minister of Transport under what authority he proposed to abolish or alter the status of the Railway Rates Tribunal.

Captain Euan Wallace (Minister of Transport) wrote in reply:—It is not proposed, in present circumstances, to abolish the Railway Rates Tribunal, nor to limit its jurisdiction except in regard to the general level of charges and, in very special circumstances, the level of particular charges. Such limitation as is necessary will be effected by Regula-

tions made by Order in Council under the Emergency Powers (Defence) Act, 1939, or by Orders made under such Regulations.

Railway Refreshment Charges

Mr. C. C. Poole (Lichfield—Lab.) asked the Minister of Transport whether, in view of the fact that members of the forces were charged 2d. for a cup of tea, coffee, or cocoa in railway refreshment rooms, he would take steps, in collaboration with the railway companies, to secure that these men might be able to get such refreshments at reduced prices when travelling.

Mr. R. H. Bernays (Parliamentary Secretary to the Ministry of Transport) wrote in reply: I am satisfied that the charge of 2d. made to members of the forces, as compared with a charge of 3d. made to civilians, is reasonable, and I am not prepared to press the companies to make any further reduction.

Canteens on Railway Stations

Mr. Leslie Boyce (Gloucester—C.) asked the Secretary of State for War what provision was made at main-line railway stations in London and the chief provincial centres for canteen services for the use of home, Dominion, and Colonial service men who might be passing through them; and whether such services were capable of rapid expansion in case of need.

Mr. Oliver Stanley (Secretary of State for War): Various voluntary organisations whose work in this respect is co-ordinated by the Council of Voluntary War Work on which they are represented, are operating 40 canteens at railway stations in London and the provinces, and 26 more will be opened shortly. I am informed that these canteens are, in most cases, capable of fairly rapid expansion. There is also a considerable number of other canteens run by private enterprise at railway stations throughout the country.

Coventry Goods Station

Captain W. F. Strickland (Coventry—C.), on March 6, asked the Minister of Transport whether he had considered the numerous complaints from manufacturers indicating the serious inconvenience caused by the closing, without public notice, of Coventry goods station against the reception of goods, in and out, sent by rail; whether he would state the reason for this measure; and whether he would take action so that goods urgently needed might be sent by road transport.

Captain Euan Wallace (Minister of Transport): The need for restricting traffic at Coventry arose from the congestion caused by the unprecedented severity of the weather in January and the early part of February. Widespread sickness among the railway staff at Coventry, and in the Birmingham district generally, aggravated the position. The restriction was removed on February 27 and there should now be no difficulty in regard to traffic at Coventry. I am informed that every effort was made to advise traders of the restriction through the usual channels.

Captain Strickland: Can the Minister point to any public notice that was given, and is he aware that much of this material is urgently wanted in Coventry, that the total closure amounted to over a month, and that Coventry was not the only place in which this happened? Will he see that in future public notice is given, and that if the railways cannot carry the stuff, road transport is permitted to do so?

Captain Wallace: My information is that the total closure was for 20 days and not for a month. Traders were advised by cartage foremen, carters, motor drivers, and the company's commercial representatives. That is the recognised procedure. Priority traffic and perishables were exempted from the restrictions, and with regard to the latter part of Captain Strickland's Question, I have to divide a limited amount of petrol among a large number of claimants, and the occurrence of an extra emergency does not give me any more petrol.

Demurrage on Coal Wagons

Mr. James Hall (Stepney, White-chapel—Lab.), on March 6, asked the Minister of Transport, whether he was aware that one of the contributory causes of the coal shortage was the present rate of the demurrage charges for coal wagons; and whether the shortage of supplies would not be intensified by the decision to increase demurrage rates.

Captain Wallace: The object of the increased demurrage charges is to secure the speedier turn-round of wagons which is essential if the railways are to meet the demands upon them, in particular for the carriage of a greatly increased tonnage of coal. As I explained on December 6 in reply to the hon. member for Llanelli (Mr. James Griffiths), these regulations were decided upon only after an appeal by the President of the Board of Trade and myself to trade and industry for a voluntary speed-up had failed to produce the desired result. Under existing conditions I could not contemplate a return to the practice of detaining wagons under load which existed before the more stringent demurrage regulations came into operation.

Mr. Hall: Is the Minister aware that, despite the fact that there is a necessity for mobility of these wagons, the demurrage rates create an excessive caution in the minds of coal merchants, with the result that they are not taking steps which they ought to take at normal times?

Captain Wallace: If we were to go back on these demurrage regulations, we might cure one evil in the sense of reassuring coal merchants, but we should create a very much worse one by in effect reducing the number of wagons available for the carriage of goods on the railways.

Mr. Hall: Would the Minister be prepared to meet representatives of the coal merchants to see whether a point cannot be reached at which the

object they have in mind can be effected?

Captain Wallace: Most certainly. I am only too anxious to get the best use out of the wagons with the least possible inconvenience to anybody.

Mr. H. Holdsworth (Bradford South—Lib. Nat.): Can the Minister give any proof to the House that demurrage is quickening the use of these wagons? Is it not idle to say that the weather conditions have created a shortage of coal? The cause of the short orders given by the merchants arose from the demurrage charges.

Captain Wallace: I have not come armed with any precise figures, but if my hon. friend will put down a Question, I will give him the latest information I have. I am very glad to take this opportunity of informing the House that the introduction of the demurrage regulations has very appreciably decreased the period of standage of railway wagons under load.

Mr. Will Thorne (Plaistow—Lab.) asked the Minister of Transport if he was aware of the proposal of the railway companies to increase the demurrage rates of coal wagons from 6½d. a day after three to four days, to a daily rate of 3s. after 48 hours, as from March 1, and from April 1 the same increased daily rate was to apply after 24 hours; and what action he intended taking about the matter.

Captain Wallace: The present demurrage charges were authorised by regulations which were made by me and came into force on December 15. The 6½d. a day to which the hon. member refers was not a demurrage charge but a rent for the occupation of a railway siding by a privately-owned wagon. As I explained on December 6, when announcing my intention to make the new demurrage regulations, the 48 hours' free time allowed to coal merchants until March 31 was a special concession to enable them to make such arrangements by the provision of storage accommodation or otherwise as will enable them to comply with the requirements imposed on all other traders that wagons shall be released within 24 hours.

Captain W. F. Strickland (Coventry—C.): Is the Minister aware that it takes as much as 10 days to bring coal two miles into Coventry and that it is then brought in such large quantities that it is impossible for the coal merchants to clear it in 48 hours?

Captain Wallace: I have stated to the House on more than one occasion, that where any coal merchant can show owing to the conditions under which coal was delivered to him it is impossible for him to comply with the demurrage regulations no charge will be made.

Mr. N. B. Goldie (Warrington—C.) asked the Minister of Transport whether he was aware that the recent increase in demurrage charges for railway wagons amounted in Warrington and district to approximately 500 per cent. as compared with the corresponding period last year; what was the reason

for such increase; and whether, in view of the hardship involved on coal distributors and purchasers in such area, he would take steps to reduce the amount of such demurrage charge.

Captain Wallace: My attention has not previously been drawn to the effect which my hon. and learned friend alleges has been produced by the operation of the demurrage regulations in Warrington and district. I may remind him that I have already given an assurance that these regulations will be administered with due regard to any genuine difficulties which traders may have in giving strict compliance, provided they can show that they have taken all reasonable steps to adjust themselves to the needs of the situation. I should add that the Railway Executive Committee is, at my request, considering whether some relief can be given to traders whose liability for demurrage charges arose during the recent exceptional weather conditions and may have been due to such conditions.

Mansion House Association on Transport: Luncheon

The annual luncheon of the Mansion House Association on Transport was held on March 6 at the Strand Palace Hotel, London, under the chairmanship of Sir Isidore Salmon, President of the Parliamentary Committee of the Association. Among those present were Captain Euan Wallace, Minister of Transport, Mr. W. H. Gaunt, Sir Alan Garratt Anderson, Sir Arthur Salter, Sir Arthur Griffith-Boscawen, and Mr. Frederick Smith.

Mr. W. H. Gaunt, President of the association, in a brief address surveyed two phases of the association's life since its foundation 64 years ago. In 1890, although there was no major war abroad, there was war on the home front, which nearly paralysed London and other ports, and the association itself was contesting with the railways in the Railway Rates Enquiry. The second phase, 20 years ago, was marked by the establishment of the Ministry of Transport, and the appointment of Sir Eric Geddes as the first of the long list of subsequent ministers, culminating in Captain Euan Wallace, whom he complimented on his administration under the difficult conditions of today. Nevertheless, he expressed concern at the possibility of railway rates being increased, and anxiety that the Railway Rates Tribunal was to be emasculated in questions of policy.

Captain Euan Wallace was able to reassure Mr. Gaunt, and his remarks are summarised in our article on "Transport Services and the War."

Mr. Frederick Smith, who welcomed the guests, referred to his present responsibilities as Director of Food Transport, and outlined the measures which had been taken to meet any possible wartime difficulties. Sir Alan Garratt Anderson briefly responded.

NOTES AND NEWS

Head-on Collision in Finland.—On the Helsinki-Tornio line two trains came into head-on collision north of Tampere in a blizzard on the night of March 5, as a result of which 20 persons lost their lives. The wreckage caught fire, and darkness impeded rescue work.

Agreed Charges.—Applications are being made to the Railway Rates Tribunal for approval of 35 agreed charges. Copies of these applications (1s. each, post free) may be obtained from the Secretary, Railway Clearing House, Amersham, Bucks. The applications may be inspected in London at the District Goods Manager's Office, L.M.S.R., Broad Street station, E.C.2, and not at the Railway Clearing House, Eversholt Street, N.W.1. Notices of objection must be filed on or before April 5.

North London Electrification Scheme.—It has now been announced officially that the L.N.E.R. and L.M.S.R. steam trains on the High Barnet branch will be withdrawn after April 13, and that from Sunday, April 14, the service will be maintained by London Transport tube trains provided by the extension of the existing Northern Line service beyond its present terminus at East Finchley. Thenceforward the following stations will be served exclusively by tube trains: Finchley (Church End)—to be renamed Finchley Central—West Finchley, Woodside Park, Totteridge & Whetstone, and High Barnet.

L.M.S.R. Sentinel Railcar Withdrawn.—The Sentinel steam railcar, No. 29913, of the L.M.S.R., was condemned and withdrawn from service in December last. This vehicle, which was the only survivor of its type on the L.M.S.R. system, was built in 1928 and was a 100 h.p. geared unit, six cylinders, with carden-shaft drive, and having a seating capacity of 40. No. 29913 was stationed on the Northern Division, and worked for a considerable time on the Elvanfoot and Wan-

lockhead branch, until the closure of the line at the end of 1938. Latterly the unit had been stationed at Hamilton.

Alaska Railroad.—During the fiscal year ending June 30, 1939, the Alaska Railroad carried 157,904 tons of freight, of which 104,066 tons were coal; freight revenue was \$1,634,393. Passengers carried totalled 27,436 and passenger revenue amounted to \$259,452. Total revenue from all sources amounted to \$2,353,927 and operating expenses to \$2,371,490.

Great Southern Exceptional Rates.—The Court of the Railway Tribunal (Eire) sanctioned on February 29, with modifications, exceptional rates exceeding 40 per cent. below standard, for the carriage of certain goods by the Great Southern Railways Company. Mr. T. F. Brazil, Chief Rates Assistant, Great Southern Railways Company, gave evidence in support of the application for the new rates.

Two Accidents on the Highland Line.—When part of a goods train travelling between Aviemore and Inverness broke away on March 5 near Carrbridge, it ran back down the gradient, and collided with a double-headed goods train which was following. The driver and the fireman of the leading engine of the second train were killed. On March 6 a passenger train, consisting of two passenger coaches and four vans, was proceeding a few miles north of Tain, when part of it became derailed, and some of the vehicles fell down the embankment. There were no casualties.

Corresponding with the Enemy.—Correspondence with enemies on business matters is permitted in approved cases, but communications are not passed by the censorship authorities except with the prior approval of the Trading with the Enemy Branch (Treasury and Board of Trade), or in the case of communications regarding patents, designs, or trade marks, with

the prior approval of the Patent Office. Persons who desire to communicate with an enemy on business matters should therefore forward the communication to the Trading with the Enemy Branch, or to the Patent Office (enclosed in a stamped, open envelope addressed to an intermediary in a neutral country), under cover of a letter explaining the circumstances in which it is desired to send it.

British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			Mar. 12, 1940	Rise/ Fall
G.W.R.				
Cons. Ord.	38	21½	49	+ 3½
5% Con. Pref.	92	71	101½	—
5% Red. Pref. (1950) ..	98	83	101½	—
4% Deb.	103	91	103½	—
4½% Deb.	105½	93½	107½	—
4½% Deb.	110	99	111	—
5% Deb.	121	109½	122½	- 1
2½% Deb.	63½	54	65½	—
5% Rt. Charge	117	104	116	—
5% Cons. Guar.	111	96½	114	—
L.M.S.R.				
Ord.	17	9½	22½	+ 3½
4% Pref. (1923)	46½	20	55½	+ 2
4% Pref.	63½	37½	66½	+ 3
5% Red. Pref. (1955) ..	83	58½	90	—
4% Deb.	98	85	98½	+ 1
5% Red. Deb. (1952) ..	109	101½	107	—
4% Guar.	87½	73	91½	—
L.N.E.R.				
5% Pref. Ord.	5½	3½	7	+ 1½
Def. Ord.	3½	1½	3½	+ ½
4% First Pref.	38½	19	54½	+ 2
4% Second Pref.	15	7½	20½	+ 3
5% Red. Pref. (1955) ..	55	38	75½	—
4% First Guar.	78½	60	82½	—
4% Second Guar.	68½	47	73½	+ 1
3% Deb.	71½	57	72½	+ 1
4% Deb.	93	76	95½	+ 1
5% Red. Deb. (1947) ..	106½	98	105½	—
4½% Sinking Fund Red. Deb.	104½	96	102½	—
SOUTHERN				
Pref. Ord.	78	46½	73½	+ ½
Def. Ord.	19½	7	21½	+ 3½
5% Pref.	100	76	102½	—
5% Red. Pref. (1964) ..	102½	94	100½	—
5% Guar. Pref.	116½	103	114	+ 1
5% Red. Guar. Pref. (1957)	112½	102½	111	—
4% Deb.	103	91½	101½	—
5% Deb.	118½	109½	122½	- 1
4% Red. Deb. (1962- 67)	106	98	104½	- 1
5% Red. Deb. (1970- 80)	102	96	104½	—
FORTH BRIDGE				
4% Deb.	98½	81	90½	—
4% Guar.	95	80	90½	—
L.P.T.B.				
4½% "A"	115	103	111½	- 2
5% "A"	123	106½	118½	- 2
4½% "T.F.A."	105	100½	104	—
5% "B"	117½	102	108½	- 1
5% "C"	84	63½	44½	- 1½
MERSEY				
Ord.	24½	17½	24½	—
4% Perp. Deb.	93½	88½	90½	- ½
3% Perp. Deb.	77	65½	64½	—
3% Perp. Pref.	55	49½	54½	—
IRELAND				
BELFAST & C.D.				
Ord.	6	3	4	—
G. NORTHERN				
Ord.	6	2½	4½	—
G. SOUTHERN				
Ord.	13½	8	11	—
Pref.	26	10	22	- ½
Guar.	40½	22	33	—
Deb.	57	45½	53	—

Irish Traffic Returns

IRELAND		Totals for 9th Week			Totals to Date		
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass.	1,948	1,570	+ 378	17,753	14,631	+ 3,122
	goods	534	530	+ 4	4,368	3,679	+ 689
	total	2,482	2,100	+ 382	22,121	18,310	+ 3,811
Great Northern (543 miles)	pass.	9,000	9,350	- 350	80,750	72,750	+ 8,000
	goods	13,100	11,450	+ 1,650	100,900	87,300	+ 13,600
	total	22,100	20,800	+ 1,300	181,650	160,050	+ 21,600
Great Southern (2,076 miles)	pass.	28,863	28,515	+ 348	250,787	249,204	+ 1,583
	goods	45,301	42,551	+ 2,750	375,521	364,667	+ 10,854
	total	74,164	71,066	+ 3,098	626,308	613,871	+ 12,437
L.M.S.R. (N.C.C.) (271 miles)	pass.	4,450	3,050	+ 1,400	33,370	26,960	+ 6,410
	goods	3,750	2,940	+ 810	28,700	24,260	+ 4,440
	total	8,200	5,990	+ 2,210	62,070	51,220	+ 10,850

OFFICIAL NOTICES

London and North Eastern Railway Company

NOTICE is hereby given that, for the purpose of preparing the warrants for interest payable on the 15th April, 1940, on the Company's 5% Redeemable Debenture Stock, the balance will be struck as at the close of business on 27th March, and such interest will be payable only to those Stockholders whose names are registered on that date.

Transfers of the 5% Redeemable Debenture Stock should, therefore, be lodged with the Registrar of the Company at Hamilton Buildings, Liverpool Street Station, London, E.C.2, before 5.0 p.m. on 27th March.

By Order,

P. J. DOWSETT,

Secretary.

Marleybone Station,
London, N.W.1.
15th March, 1940.

Indian State Railways

APPLICATIONS are invited for an appointment in the Transportation (Traffic) and Commercial Departments of Indian State Railways.

Candidates must be British subjects of non-Asiatic domicile and must have been not more than 25 years of age on the 1st August, 1939. They must either (a) have obtained a degree or other qualification as prescribed in the regulations, or (b) have had not less than two years' practical training, as pupil or apprentice, in the Traffic Department of a British or Colonial Railway, following a sound general education.

Appointment on probation for three years, with prospects of permanent employment, and of promotion to the higher grades, including the Chief Administrative posts in the Departments.

Further particulars and forms of application may

be obtained, on application by postcard (quoting Appointment 1/3 F) from the High Commissioner for India, General Department, India House, Aldwych, London, W.C.2. Last date for receipt of completed applications 23rd March, 1940.

Government of India

APPLICATIONS are invited for three appointments of Assistant Officer (Civil Engineer) in the Indian Railway Service of Engineers.

Candidates must be natural born British subjects of non-Asiatic domicile and must be not more than 25 years of age on the 1st August, 1939. They must possess a degree of a recognised University or have passed sections A and B, of the A.M.I.C.E. examination, or an examination exempting therefrom, or have obtained the Associateship of the City and Guilds Institute of such other diploma or distinction in Engineering as the High Commissioner for India may decide to accept in any particular case. They must also have had two years' approved practical experience of engineering.

The officer will be appointed on probation for a period of three years in the first instance at an inclusive rate of pay of Rs. 500 per mensem for the first year; Rs. 525 per mensem for the second year; and Rs. 550 per mensem for the third year, whereafter, subject to satisfactory service, there are prospects of permanent appointment and of promotion to the higher grades, including the chief administrative posts (Rupee = 1s. 6d. approx.). Free first-class passage to India. If retained after probation, further passages admissible for purposes of leave, Provident Fund, gratuity.

A memorandum giving particulars of the Indian Railway Service of Engineers and forms of application may be obtained on request by postcard (quoting Appointment 275/1 H) from the High Commissioner for India, General Department, India House, Aldwych, London, W.C.2. Last date for receipt of completed applications, 23rd March, 1940.

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS

Applications from qualified candidates are invited for the following post:—

WORKS MANAGER required for the Trinidad Government Railway for three years' service in the first instance, with prospects of permanency. Salary T\$1,920—T\$120—T\$2,880. (T\$4.80 equals £1.) Free passages and, if married, for wife and children not exceeding four persons. Leave on full salary. Candidates not over 45, preferably trained on an English railway, must have had good practical experience of Railway Shops and Running Sheds and must be qualified to act as Locomotive Superintendent in the absence of the latter.

Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1 quoting M/9125

Universal Directory of Railway Officials and Railway Year Book

45th Annual Edition, 1939-40

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CONTRACTS AND TENDERS

Prestige & Co. Ltd. has received a contract from the L.P.T.B. for the construction of buildings and for finishing work at Highgate station on the Northern Line. The existing L.N.E.R. station is being entirely reconstructed and connected to a new tube station 135 ft. below ground level.

D. Wickham & Co. Ltd., of Ware, has received orders through Wm. Bayliss & Co. Ltd. for 40 broad-gauge gang trolleys from the Buenos Ayres Great Southern Railway, and another for 36 rail transporters from the South African Railways.

The South Indian Railway has placed the following orders recently to the inspection of Messrs. Robert White & Partners:—

Linley & Co. Ltd.: 26 copper tube and back plates.

Howell & Co. Ltd.: 10,850 s.d. steel boiler and flue tubes.

Steel Company of Scotland Ltd.: 132 loco. tyres.

Vulcan Foundry Limited: 6 loco. flycranks. Shepherd & Sons (1925) Limited: 3,900 wooden handles.

Thos. E. Gray & Co. Ltd.: 29 tons of refractory cement.

The Bombay, Baroda & Central India Railway has placed an order to the inspection of Messrs. Rendel, Palmer & Tritton for one saturated-steam boiler for a C class locomotive with the Hunslet Engine Co. Ltd.

The Peruvian Corporation has passed the following orders:—

Charles Clifford & Son Limited: Copper tubes.

Beyer, Peacock & Co. Ltd.: Beyer-Garratt loco. spares.

Geo. Turton, Platts & Co. Ltd.: Stuart's patent sleeper tampers.

The Egyptian State Railways have placed the following orders:—

S. A. Gilsoco, Belgium (through Nye & Menzies Limited): Bolts and nuts (3,391—£338).

British Insulated Cables Limited: Copper wire and cable (E.S.R. 30,520—£439). Cable (E.S.R. 35,56—£810).

Guest, Keen & Nettlefolds Limited: Bolts and nuts (3,384—£1,891).

H. J. Skelton & Co. Ltd.: Steel (1,563—£402).

Samuel Fox & Co. Ltd.: Tyres (21,115—£475).

Steel, Peech & Tozer: Spring steel and flat bars (307,68/59; items 2/5 and 7/8—£1,950).

Two track-laying tractors are required by the Department of Lands for the Orange River Settlements. Tenders to be in by March 21. (D.O.T. No. T. 16789/40.)

The South Indian Railway, 91, Petty France, London, S.W.1, is calling for tenders by March 21 for helical and volute steel springs.

The India Stores Department is calling for tenders (No. N. 964) by March 27 for helical steel springs for locomotives, bogie checks, brake gear, buffer plungers, and draw hooks. D.O.T. No. T. 17077/40.

The South African Railways are enquiring for the following items:—

One 15-ton electrically-driven Goliath crane (No. 2532, April 22; D.O.T. No. T. 16786/40). Piping and fittings (No. 2610, April 15; D.O.T. No. T. 16788/40).

One 42,000-gal. pressed steel tank (No. 2605, April 18; D.O.T. No. T. 16787/40).

The Egyptian State Railways are enquiring for the following items:—

Cotton-covered copper wire and copper cable (E.S.R. 30,528).

Cable of various types (E.S.R. 35,59 and 35,61).

Condensers (E.S.R. 34,1251).

A private company entitled S. Ralph Golding & Co. Ltd. has been registered, with a nominal capital of £50,000, to acquire a business of machine tool manufacturers.

Trade negotiations which have been proceeding between the United Kingdom and Norway have been concluded, and a War Trade Agreement was signed on March 11. A joint standing commission is being set up, and will meet from time to time in Oslo or London.

Protection against high-explosive bombs has been erected by Simmonds Aerocessories Limited for the preservation of its employees in the event of an air raid. The stronghold is of reinforced concrete with sheet steel piling round the central section, and is complete with surgery, hospital, decontamination room, and air filtration plant.

Forthcoming Meetings

Mar. 19 (Tues.).—King's Lynn Docks & Railway Company (Ordinary), Great Eastern Hotel, Liverpool Street, E.C., at 12 Noon.

Mar. 26 (Tues.).—Temiscouata Railway Company (Annual general), Chateau Frontenac, Quebec, Canada, at 12 Noon.

Mar. 27 (Wed.).—Grand Union Canal Company (Ordinary general) Winchester House, Old Broad Street, E.C., at 11 a.m.

Mar. 29 (Fri.).—Zafra & Huelva Railway Company (of Spain) (General), San Bernado 68, Madrid, at 4 p.m.

Apr. 11 (Thurs.).—Norfolk & Western Railway Company (Annual), at Roanoke, Virginia, U.S.A., at 10 a.m.

May 1 (Wed.).—Canadian Pacific Railway Company (Annual general) at the offices of the company, Montreal, Canada, at 12 noon.

Railway Stock Market

The new 3 per cent. War Loan, which represents the first major borrowing operation of the war, monopolised attention on the Stock Exchange, and for the time being has reduced the weight of money available for investment. Industrial and other groups of securities made slightly lower prices, but home railway stocks moved against the general trend, widespread recognition of the generous yields having stimulated demand. Fresh buying on the part of permanent investors was reported for guaranteed and preference stocks, while debentures remained firmly held, and where changed, have moved in favour of holders. Junior preference and ordinary stocks were also favoured on the belief that over a period they may offer scope for further satisfactory improvement in value, bearing in mind the prospects of better dividends for the current year on Southern deferred, Great Western, and L.M.S.R. ordinary and L.N.E.R. second preference.

As compared with a week ago L.M.S.R. ordinary moved up from 19½ to 22½, while the 1923 preference rallied 1½ points to 55½. The yield on the latter is still approximately 7 per cent., which is on the generous side, considering the satis-

factory cover for the dividend, which should be further increased in the current year. L.M.S.R. 4 per cent. senior preference also gives a very satisfactory yield of nearly 6 per cent., and at 66½ has more than recovered the reaction shown a week ago. At 92 the guaranteed stock was unchanged on balance, while the 5 per cent. debentures remained at 107, and the 4 per cent. debentures were a point higher at 98½. Southern deferred, which was 18½ a week ago, has moved up to 21½, but the preferred at 73½ lost an earlier rally, and was unchanged on the week. On the other hand, the 4 per cent. debentures were fractionally higher at 102; the guaranteed stock remained at 114½ and the preference stock at 102 was virtually unchanged in price. Great Western ordinary recovered strongly with an advance from 45½ to 47½, and the preference made the slightly better price of 101½; the guaranteed stock was again around 114, and the 4 per cent. debentures 103½. A fair amount of activity was reported in the case of L.N.E.R. second preference, which rallied from 17½ to 20½. Moreover, the first preference improved from 52 to 54½, at which the yield is approximately 7½ per

cent. Improved prices also ruled for the preferred and deferred stocks. Whereas the first guaranteed at 83 was the same as a week ago, the second guaranteed was 2 points up at 74, at which, however, the yield, now 5½ per cent., still appears to be generous. As regards L.N.E.R. debentures, the 3 per cents. were slightly higher at 72 and the 4 per cents. remained at 95. At 44½, London Transport "C" was a point down, as was the 5 per cent. "B" stock at 109½, a tendency to exchange out of the latter into home railway debentures offering better yields having been reported.

Foreign railway securities reflected the easier conditions obtaining in most sections of the Stock Exchange. Ordinary and preference stocks of the Argentine companies were lower, where changed, but debentures were again relatively steady. B.A. Western 4 per cent. debentures at 66, and B.A. & Pacific 4 per cent. debentures at 71 more than held the improvement shown last week. Nitrate Rails shares changed hands around the higher level of 55s. Canadian Pacific preference stock and shares failed to hold best prices touched during the past few days, but were higher on the week

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1939-40	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices				
			Total this year	Inc. or Dec. compared with 1939		Totals		Increase or Decrease		Highest 1939	Lowest 1939	Mar. 12, 1940	Yield % (See Note)	
						This Year	Last Year							
			£	£		£	£	£						
Antofagasta (Chili) & Bolivia	834	3.3.40	19,810	+ 4,500	9	165,710	115,420	+ 50,290	Ord. Stk.	10½	4½	10½	Nil	
Argentine North Eastern	753	2.3.40	ps. 127,100	+ ps. 1,200	36	ps. 5,387,800	ps. 5,568,200	+ ps. 180,400		4½	2	3½	Nil	
Bolivar	174	Feb. 1940	3,520	180	8	7,220	7,100	+ 120	6 p.c. Deb.	7½	5½	7	Nil	
Brazil									Bonds.	5½	4½	6	8½	
Buenos Ayres & Pacific	2,801	2.3.40	ps. 1,830,000	+ ps. 2,000	36	ps. 46,893,000	ps. 47,757,000	+ ps. 864,000	Ord. Stk.	5½	2	4	Nil	
Buenos Aires Central	190	27.1.40	885,900	+ 84,100	31	3,166,600	3,390,400	+ 223,800	Mt. Deb.	14	8	13½	Nil	
Buenos Ayres Gt. Southern	5,082	2.3.40	ps. 3,208,000	+ ps. 65,000	36	ps. 81,714,000	ps. 80,968,000	+ ps. 746,000	Ord. Stk.	13½	4½	9	Nil	
Buenos Ayres Western	1,930	2.3.40	ps. 817,000	+ ps. 10,000	36	ps. 27,238,000	ps. 25,099,000	+ ps. 2,139,000	"	10½	4	7½	Nil	
Central Argentine	3,700	2.3.40	ps. 1,728,950	+ ps. 561,050	36	ps. 62,585,700	ps. 66,421,450	+ ps. 3,835,750	"	11½	4	7½	Nil	
Do									Ord.	4	1½	4	Nil	
Cent. Uruguay of M. Video	972	2.3.40	26,682	+ 6,268	36	727,876	656,014	+ 71,862	Ord. Stk.	24½	1½	3½	Nil	
Costa Rica	188	Nov. 1939	16,055	+ 1,709	21	88,364	112,640	+ 24,276	Stk.	2½	18	22	9½	
Dorada	70	Feb. 1940	10,500	+ 2,300	8	22,700	26,100	+ 3,400	1 Mt. Db.	104½	102	102½	5½	
Entre Rios	810	2.3.40	ps. 201,600	+ ps. 22,900	36	ps. 8,606,900	ps. 9,010,000	+ ps. 403,100	Ord. Stk.	6	3	4½	Nil	
Great Western of Brazil	1,016	2.3.40	13,200	+ 1,600	9	122,200	105,500	+ 16,700	Ord. Sh.	3/-	1/2d	1	Nil	
International of Cl. Amer.	794	Jan. 1940	\$565,491	+ \$17,218	4	\$565,491	\$548,273	+ \$7,218						
Interoceanic of Mexico									1st Pref.	7½d	7½d	1	Nil	
La Guaira & Caracas	22½	Feb. 1940	6,995	+ 2,340	8	14,605	9,405	+ 5,200	Stk.	7	6½	6½	Nil	
Leopoldina	1,918	2.3.40	22,040	+ 2,761	9	205,930	195,383	+ 10,547	Ord. Stk.	2½	1½	2½	Nil	
Mexican	483	7.2.40	\$317,300	+ \$23,500	5	\$1,626,400	\$1,604,300	+ \$22,100	"	2½	1½	2½	Nil	
Midland of Uruguay	319	Jan. 1940	12,268	+ 2,257	31	67,726	64,567	+ 3,159	"	2	1½	2½	Nil	
Nitrate	386	29.2.40	16,653	+ 11,569	8	45,856	19,202	+ 26,654	Ord. Sh.	2½	1½	2½	5	
Paraguay Central	274	2.3.40	\$3,022,000	+ \$277,000	36	\$112,015,000	\$108,232,000	+ \$3,783,000	Pr. Li. Stk.	45½	36	38	15½	
Peruvian Corporation	1,059	Feb. 1940	66,923	+ 5,122	35	531,913	539,567	+ 7,654	Pref.	1½	¾	3½	Nil	
Salvador	100	3.2.40	c37,375	+ c12,125	32	c500,217	c591,964	+ c91,747	Pr. Li. Db.	19½	16	15	Nil	
San Paulo	153½	25.2.40	36,951	+ 13,324	8	258,039	226,960	+ 31,079	Ord. Stk.	38	20	41½	4½	
Talita	160	Jan. 1940	3,660	+ 210	31	17,800	20,785	+ 2,985	Ord. Sh.	2	6/6	1½	7½	
United of Havana	1,353	2.3.40	51,878	+ 3,422	36	703,391	719,793	+ 16,402	Ord. Stk.	2	1	1	Nil	
Uruguay Northern	73	Jan. 1940	1,127	+ 136	31	7,368	7,469	+ 101	Deb. Stk.	2	2	2	Nil	
Canada	23,696	29.2.40	970,999	+ 261,535	8	7,064,898	5,312,956	+ 1,751,942						
Canadian National									Perp. Dbs.	74½	60	78	5½	
Canadian Northern									4 p.c. Gar.	100½	76	101½	3½	
Grand Trunk									Ord. Stk.	7½	3½	9	Nil	
Canadian Pacific	17,169	7.3.40	533,200	+ 56,600	9	5,365,400	4,255,600	+ 1,109,800						
India	1,329	31.1.40	48,817	+ 3,425	45	1,310,255	1,261,999	+ 48,256	Ord. Stk.	76½	60	76½	3½	
Barsi Light	202	10.2.40	2,295	+ 682	47	108,885	121,470	+ 12,585	Ord. Sh.	56½	50½	45	8½	
Bengal & North Western	2,096	10.2.40	95,223	+ 1,031	19	1,001,310	1,063,461	+ 62,151	Ord. Stk.	277	229½	280	5½	
Bengal Doonars & Extension	161	10.2.40	2,997	+ 381	47	124,699	131,429	+ 6,730	"	91	84½	207½	3½	
Bengal-Nagpur	3,267	10.2.40	248,700	+ 24,979	47	6,876,195	6,050,908	+ 825,287	"	94½	83½	93½	4½	
Bombay, Baroda & C. India	2,986	29.2.40	284,850	+ 58,575	49	8,242,425	8,106,600	+ 135,825	"	108	90	104½	5½	
Madras & Southern Mahratta	2,967	10.2.40	164,400	+ 5,625	47	4,949,959	4,831,064	+ 118,895	"	104½	92	102½	7½	
Rohilkund & Kumaon	571	10.2.40	18,973	+ 1,530	19	210,416	197,740	+ 12,676	"	280	263	275	5½	
South Indian	2,531½	31.1.40	117,272	+ 6,120	45	3,398,347	3,430,535	+ 32,188	"	102½	88	91½	5½	
Various														
Beira	204	Dec. 1939	65,634	—	13	219,638	—	—						
Egyptian Delta	623	31.1.40	6,177	+ 588	45	181,744	182,356	+ 612	Prf. Sh.	½	½	½	Nil	
Kenya & Uganda	1,625	May 1939	206,557	+ 11,295	21	1,220,870	1,309,332	+ 88,462	B. Deb.	55	39	47½	7½	
Manila									Inc. Deb.	91½	87½	84	4½	
Midland of W. Australia	277	Dec. 1939	13,434	+ 2,972	26	73,928	92,286	+ 15,358						
Nigerian	1,900	6.1.40	50,629	+ 13,354	41	1,387,080	1,559,763	+ 172,683						
Rhodesia	2,442½	Dec. 1939	373,151	—	13	1,136,075	—	—						
South Africa	3,284	17.2.40	624,739	+ 15,145	49	30,045,938	28,781,663	+ 1,264,275						
Victoria	4,774	Nov., 1939	844,843	+ 35,215	21	3,894,087	3,874,553	+ 19,534						

Note. Yields are based on the approximate current prices and are within a fraction of ½%. Argentine traffic is now given in pesos. † Receipts are calculated @ 1s. 6d. to the rupee. ‡ ex dividend